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A Virtue Epistemic Approach to Critical Thinking

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A Virtue Epistemic Approach to Critical Thinking

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Submitted in total fulfilment of the requirements of the degree of

Doctor of Philosophy

Abstract

In this thesis I develop a virtue-theoretic conception of critical thinking. I argue that many conceptions of critical thinking have conflated “critical thinking” with “good thinking”. In contrast to other intellectual pursuits, I identify critical thinking as its own activity which aims at the achievement and maintenance of intellectual autonomy. I identify the constitutive virtues of critical thinking as conscientiousness, self-awareness, and prudent wariness. I argue that virtues require internal success, and intellectual autonomy is the achievement of the external success of the critical thinking virtues. It is a mistake to consider other virtues or character traits involving moral or cooperative behaviour as constitutive of critical thinking, though these may be ancillary virtues and useful to foster alongside the virtues of critical thinking. The conception I offer in this thesis suggests a solution to concerns regarding transfer of learning and offers a pedagogically-clear way of framing a critical thinking curriculum.

Declaration

This thesis is submitted to Bond University in fulfilment of the requirements of the degree of Doctor of Philosophy. This thesis represents my own original work towards this research degree and contains no material that has previously been submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

Dedication

To my parents, Doug and Helen.

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Introduction

In chapter 1, I discuss several attempts to define critical thinking. Early skills-based conceptions of critical thinking have been criticised for not including dispositional components. Although dispositional components have since been added, these need to be coordinated with good aims—a critical thinker should be one who is disposed to act in a certain way. I provide an overview of Robert Ennis’ conceptions of critical thinking to show his responses to criticism of this kind over time. I identify two types of approaches towards defining critical thinking in the literature—approaches that build up the idea of the ideal critical thinker in terms of relevant skills and dispositions, and others that hold the ideal critical thinker as fundamental. I argue that the former of these approaches ultimately results in long lists of skills or dispositions that are incoherent. The latter approach is shared with virtue theory; I argue that the critical thinking literature can be enriched by bringing it into contact with virtue theory in general, and virtue epistemology in particular.

A recurring concern in the critical thinking literature is whether what is taught in a critical thinking class can transfer to other contexts. Some critical thinking theorists, though not explicitly encouraging the idea that instruction in critical thinking is a panacea to most intellectual woes, at least provide conceptions that allow others to draw this inference. This has led to the ‘critical thinking debate’, where critics of critical thinking have argued that these claims are overpromising at best and empty at worst. This debate began in the 1980s and has continued since. I present both sides and suggest that a virtue theoretic approach offers a promising way of resetting the discussion.

In chapter 2, I provide an overview of virtue epistemology. I distinguish between virtue reliabilism and virtue responsibilism, and show that Jason Baehr’s sub-category of weak autonomous virtue reliabilism provides the scope for using the concepts of virtue to investigate intellectual activity beyond the traditional concerns of epistemology. It is in this category that the main argument of this thesis is situated. I contrast two approaches to the definition of virtuous acts; those that require success and those that do not. I argue that a middle-ground is

missed by both: if a virtue is a trait that we admire and that is worth having, then in possessing it we must succeed in expressing the virtue in a way that would be reliable under normal circumstances. This does not mean we have to achieve the end of the virtue in order to act virtuously or rightly, but that we must both intend to act and succeed in acting with a specific sort of excellence. This is a teleological conception of virtue, but one that does not tie virtuous action directly to an accomplishment of the *telos* of the virtue. I also address the situationist claim that virtues play less of a causal role than the environment in producing acts of intellectual goodness. I argue that these claims fail. They are largely based on poor interpretations of unreliable studies which, despite situationists' claims otherwise, involve manipulations of non-epistemically-irrelevant variables.

In chapter 3, I seek to discover the aim of critical thinking. The virtues of critical thinking are teleological, and in elaborating upon this claim I need to describe a plausible picture of the *telos* of these virtues. I compare critical thinking to other intellectual pursuits. I argue that the aims of critical thinking differ from those of scientific inquiry, as the scientist operates in an environment in which there is an intellectual division of labour that succeeds best when individual scientists pursue hypotheses in a somewhat uncritical manner. Similarly, a community of inquiry aims at reaching consensus, or a sociable reasoned judgement. These aims are at times opposed to critical thinking. Communities of inquiry do not thrive when every member of the community acts purely as a critical thinker. Communities of inquiry must provide a safe place for bad ideas to get a long run—if only for the sake of the community. I argue that, by contrast to communities of enquiry and scientific pursuit, critical thinking has the individualistic aim of achieving intellectual autonomy. Critical thinking aims at one being one's own intellectual person. To be a successful critical thinker, I argue, is to form beliefs that are truly one's own; it is to succeed in not being fooled either by others or by oneself.

In chapter 4, I seek to find the virtues that are contributive to the aim of intellectual autonomy. I argue that one is intellectually autonomous insofar as one achieves the aims of three virtues: self-awareness, prudent wariness, and conscientiousness. I name these the

critical thinking virtues. One is a critical thinker insofar as one has these virtues; possession of these virtues requires us to intend to act for the good of intellectual autonomy, and reliably act in a way that would achieve this good in ordinary circumstances. I describe virtues, such as open-mindedness, that supervene on the fundamental virtues of critical thinking, and other virtues that tend to be causally productive but non constitutive of intellectual autonomy. Honesty is an example of such a virtue.

In chapter 5, I show the implications of conceiving critical thinking as a set of virtues that aim at intellectual autonomy. I argue that providing a *telos* for critical thinking virtues answers concerns about the incoherence of long, seemingly ad hoc lists of the skills and dispositions of critical thinking. Skills are a necessary component of critical thinking as these allow for the successful exemplification of the virtues of critical thinking. Thinking of critical thinking as a set of virtues accounts for two types of dispositions: those that motivate people to act irrespective of the good and those that involve acting towards a good. I show that this approach provides a rich framing of critical thinking classes—skills have a place, but they are being taught to achieve a particular goal. The skills associated with critical thinking provide many powers. Some of these are beneficial, such as an increased ability to write logical essays and make persuasive speeches; some are harmful, such as the increased ability to deceive others. These considerations lead to two trends in critical thinking conceptions which I argue are mistaken. It is wrong to define critical thinking in terms of its beneficial side-effects: critical thinking is neither argument analysis nor written composition; and it is conceptually wrong to add moralistic components to the conception of critical thinking to curtail the unwanted side-effects of having students misapply their skills. It is fine to *practically* focus on these side-effects in a critical thinking course. If a critical thinking course occurs at the beginning of an undergraduate degree, then it is sensible to show how the skills of critical thinking can also help in academic work; furthermore, a responsible teacher will encourage students use their critical powers for good. It does not follow that in teaching critical thinking we are teaching academic skills or moral virtue.

Finally, in chapter 6, I return to the critical thinking debate and show that defining critical thinking as a set of virtues avoids common arguments against the transfer of critical thinking skills outside of the classroom. Virtues are stable character traits and the critical thinking virtues are not strongly tied to subject-specific knowledge; they aim at intellectual autonomy. Even though the challenge of maintaining intellectual autonomy varies greatly from context to context, the goal of maintaining intellectual autonomy always remains the same. This allows the skills of critical thinking to transfer to many contexts where the issue of intellectual autonomy is vital, but does not imply that possessing the skills of a critical thinker will automatically furnish one with an excellent legal mind or give one the facility to assess complex scientific argument.

The aim of this thesis is to develop a conception of critical thinking that does not conflate it with good thinking. If critical thinking is defined as a set of skills and dispositions which produce good thinkers, then it meets resistance by those who argue that good thinking skills in one area differ too much from another to allow for transfer. Furthermore, attempts to define critical thinking in terms of the virtues have tended to include more virtues than are needed. These unnecessary additions tend to be virtues that encourage intellectually-moral behaviour. Furthermore, an undue focus on the moral leads to missing those virtues that encourage sceptical thought—with the worry that a focus on sceptical virtues may lead to ‘egocentric’, or ethically-bad thinking. I offer a deflationary conception that identifies critical thinking as its own intellectual activity, with its own goal. A critical thinker is not one who can solve every problem in every field, or who has every intellectual or moral virtue, rather she is one who has the virtues required to think for herself.

1. Attempts to define critical thinking

In this section, I outline the early attempts to conceptualise critical thinking and distinguish between two methodological approaches: those that are *act-based* and those that are *agent-based*. By identifying difficulties with *act-based* approaches I support the claim that the concept of critical thinking will benefit from the *agent-based* approach found in virtue epistemology. These difficulties in act-based approaches arise as they seek to build up a picture of the critical thinker by providing lists of requisite or ideal characteristics of behaviours. I show how these attempts vacillate between incompleteness and incoherence; that they cannot help either failing to list enough critical thinking characteristics or becoming confused—or even circular—if they add too many.

1.1 Ennis' '*A Concept of Critical Thinking*'

Robert H. Ennis' 1962 *A Concept of Critical Thinking* marks the first attempt to systematically analyse what was, at the time, a relatively nascent term.¹ Ennis notes that although 'critical thinking' had entered the educational lexicon, only its components had received analysis—logic within logic textbooks, thinking from psychology and rationality from philosophy.² Ennis' work is important, not only as it was the first of its kind, but also because it attracted a great deal of later criticism. Since 1962, Ennis has continued to revise and clarify his early position in response to this criticism and in the light of empirical evidence gathered from tests developed from this early conception.

The early Ennis defines critical thinking as 'the correct assessing of statements.'³ He notes that this definition originates from B. Othanel Smith, who, unlike Ennis, does not distinguish between incorrect and correct assessing of statements, but rather maintains that one

¹ Robert H Ennis, "A Concept of Critical Thinking," *Harvard Educational Review* 32, no. 1 (1962): 81–111.

² Ibid.

³ Ibid., 83.

is ‘engaged in... critical thinking’ when one attempts to seek the meaning of a statement, and decide if it should be accepted.⁴ It is important to note that Ennis gives no argument for accepting this definition, but acknowledges this and asserts this is not his focus. Instead, he claims to be interested in outlining the aspects of critical thinking that may provide directions for education and further research.⁵

Despite caveats as to the exploratory nature of the work, Ennis has been criticised for his lack of justification for the definition he advances and for focusing his conceptual analysis only on requisite skills.⁶ The lack of justification exposes Ennis to possibly unfavourable interpretations. John McPeck, for example, identifies an ambiguity in Ennis’ use of ‘correct’. It may be interpreted either as *the right way of going about* assessing statements or *being right* in one’s assessment. McPeck writes:

It seems that by the word ‘correct’ Ennis must mean ‘being right’ in the sense of not being mistaken or of possessing the truth. That is, Ennis is advancing a formal or absolute notion of critical thinking that permits of neither degrees nor mistakes... Clearly, then, Ennis’s view of critical thinking is just wrong.⁷

For McPeck, not allowing critical thinking to admit of degrees is a mistake, and the source of the definition, Smith, had it right by not embedding ‘correctness’ into his definition. McPeck seems to not actually believe that the ‘being right’ interpretation is the meaning Ennis intended, and grants him the benefit of the doubt (but not before a good deal of criticism for *possibly* holding this view).⁸

⁴ B. Othanel Smith, ‘The Improvement of Critical Thinking,’ *Progressive Education*, 5 (1953), as cited in Ennis ‘A Concept of Critical Thinking,’ 83.

⁵ *Ibid.*

⁶ See John E McPeck, *Critical Thinking and Education* (Oxford: Martin Robertson, 1981); and Harvey Siegel, *Educating Reason: Rationality, Critical Thinking and Education* (New York: Routledge, 1988).

⁷ McPeck, *Critical Thinking and Education*., 43.

⁸ McPeck writes on page 43: ‘It seems that by the word ‘correct’ Ennis must mean ‘being right’ in the sense of not being mistaken or of possessing the truth.’ then disagrees with himself on page 45: ‘Let us assume... that Ennis means that one must be correct not in the sense of right, but rather in the sense that one goes through certain prescribed procedures in thinking.’

1.1.1 Ennis' aspects and dimensions of critical thinking

With *correctness* engrained in his conception, Ennis understands that there are many ways in which the assessment of statements can go wrong, and thus presents a list of twelve aspects as ways to avoid these 'common pitfalls'.⁹ Ennis' twelve aspects of critical thinking are:

1. Grasping the meaning of a statement.
2. Judging whether there is ambiguity in a line of reasoning.
3. Judging whether certain statements contradict each other.
4. Judging whether a conclusion follows necessarily.
5. Judging whether a statement is specific enough.
6. Judging whether a statement is actually the application of a certain principle.
7. Judging whether an observation statement is reliable.
8. Judging whether an inductive conclusion is warranted.
9. Judging whether the problem has been identified.
10. Judging whether something is an assumption.
11. Judging whether a definition is adequate.
12. Judging whether a statement made by an alleged authority is acceptable.¹⁰

According to Ennis, these aspects are said to fit into one or all of three dimensions of critical thinking: the *logical* dimension (a dimension that involves understanding logical operators and basic terms within a field); the *criterial* dimension (knowledge of certain criteria involved in the application of one of the twelve aspects); and the *pragmatic* dimension (knowing whether a judgement is acceptable).¹¹ Of these dimensions, the *criterial* dimension is perhaps the most unclear. Though it is largely left unexplained, Ennis provides examples of 'criteria for judging statements' throughout his explication of the aspects of critical thinking.¹² For example, for the aspect *Judging whether an observation statement is reliable* to be satisfied, Ennis writes that the following criteria must be met:

- 7.1 Observation statements tend to be more reliable if the observer:
 - 7.11 Was unemotional, alert, and disinterested.
 - 7.12 Was skilled at observing the sort of thing observed.
 - 7.13 Had sensory equipment that was in good condition.
 - 7.14 Has a reputation for veracity.
 - 7.15 Used precise techniques.

⁹ Ennis, 'A Concept of Critical Thinking.', 83.

¹⁰ Ibid., 84.

¹¹ Ibid.

¹² Ibid., 85.

7.16 Had no preconception about the way the observation would turn out.¹³

It seems that satisfying the *criterial* dimension would require an agent to have satisfied similar sorts of criteria, though this is not explicitly stated. Nor is it stated whether the lists provided are absolute and exhaustive, whether these are criteria that need to be met, or whether they are simply rules of thumb.

Ennis has also been criticised by Peter Rogers for conflating formal logic and the logic that inheres in each field of knowledge. Rogers claims that placing logical operators and knowledge of field-determinate terminologies together in one category wrongly ‘runs together form and content’.¹⁴ In fact, a good deal of future debate around the concept of critical thinking is concerned with whether, or to what extent, separate fields have separate logics. However these debates resolve themselves, a weakness in Ennis’ early conception is that it suggests simple logical skills are sufficient for solving complex problems because ‘knowing the meaning of basic terms in a field’ has been placed in the same category as understanding the difference between logical quantifiers.¹⁵ Rogers considers this placement ‘illicit... [f]or it implies that basic terms can be understood apart from study of their fields.’¹⁶ Besides the confusion created by placing these aspects under the same banner, by not making the distinction between rules which are consistent and applicable across all fields and rules that are unique to fields, Ennis has created conditions under which it is possible to lampoon critical thinking courses as naive attempts to improve proficiency in every field of knowledge.

The critical thinking aspects advanced by the early Ennis are also seen by others to be problematic. First, they are problematic in themselves. *Grasping the meaning of a statement* is obviously necessary before one can think critically about it, but is this to say that comprehension is an instance of critical thinking? Second, the list is problematic in its

¹³ Ibid., 90.

¹⁴ Peter Rogers, “‘Discovery’, Learning, Critical Thinking, and the Nature of Knowledge,” *British Journal of Educational Studies* 38, no. 1 (1990): 3–14., 5.

¹⁵ Ennis, ‘A Concept of Critical Thinking.’, 85.

¹⁶ Rogers, “‘Discovery’, Learning, Critical Thinking, and the Nature of Knowledge.’, 6.

methodology; Ennis' specification of aspects of critical thinking represents, as Harvey Siegel observes, a 'pure skills' approach to critical thinking.¹⁷ This approach misses an important ingredient: a disposition to use these skills. The problem with a *pure skills* approach, according to Siegel, is that it would allow the success of an education in critical thinking to be measured by how well students can perform on the type of exams given in a critical thinking subject, and this neglects the importance of application outside the subject—the very point of a critical thinking class.¹⁸

However, Siegel admits this criticism of Ennis may be unfair; it is obvious that skills require application, and Ennis is unlikely to have missed this point. Siegel reports that Ennis, in private correspondence, holds that his list of skills is the lists of skills involved in critical *thinking*, rather than what is necessary to be a critical *thinker*.¹⁹ Matthew Lipman later notes this distinction in extant attempts to define critical thinking. There are obvious connections between the *critical thinker* and *critical thinking* and Lipman states that '[t]he similarities may be so strong that we lose any sense we had of the thinker and the thinking being two separate things.'²⁰ It is important, however, to resolve this ambiguity as although the *thinker* and the *thinking* may be similar, the conceptual approaches are importantly different depending on which is considered fundamental. In this thesis, I label these approaches as *agent-based* and *act-based*. Those, like Ennis, who conceive the *critical thinker* as derivative from *critical thinking* see their task as providing an analysis of the necessary components of critical thinking. In this *act-based* approach, defining critical thinking as a list of abilities would be appropriate. The list of abilities do not yet describe critical thinking but they are components of critical thinking that can be described independently of personal attributes, and from these

¹⁷ Siegel, *Educating Reason: Rationality, Critical Thinking and Education*., 6.

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ Matthew Lipman, *Thinking in Education*, 2nd ed. (New York: Cambridge University Press, 2003)., 61. Lipman claims to have resolved the problems caused by this ambiguity by providing a conception of critical thinking that works for both the *critical thinker* and the *thinking*.

the concept of a critical thinker is built up. In contrast, those who conceive *critical thinking* in terms of the *critical thinker* see their task as providing a description of a type of *person*. This approach is *agent-based*. In this section I explore the differences between these two methodologies.

In 1987, conscious of the criticism of his definition as being too focussed on skills, Ennis revised his definition of critical thinking from ‘the correct assessment of statements’ to ‘reasonable reflective thinking that is focussed on deciding what to believe or do’.²¹ It is from this definition that he characterises an ideal critical thinker. The characterisation is done by way of a list of abilities and dispositions the ideal critical thinker is expected to have. This list, shown in full in Appendix 1, later evolved into the ‘streamlined characterization’ provided below in Table 1:

²¹ Robert H Ennis, ‘A Taxonomy of Critical Thinking Abilities and Dispositions,’ in *Teaching Thinking Skills*, ed. J Baron and R Sternberg (New York: W.H. Freeman, 1987), 9–26., 10.

Table 1: Ennis' 1991 'streamlined characterization' of the ideal critical thinker²²

Working Definition: 'Critical thinking' means reasonable reflective thinking that is focused on deciding what to believe or do.

Given this definition, the ideal critical thinker can be roughly characterized by the following interdependent and somewhat-overlapping set of twelve dispositions and sixteen abilities. All twelve dispositions and the first twelve abilities are offered as constitutive of the ideal critical thinker. The last four abilities (here called 'auxiliary abilities') are helpful and generally needed by the ideal critical thinker.

A. Dispositions of the ideal critical thinker:

1. to be clear about the intended meaning of what is said, written, or otherwise communicated
2. to determine and maintain focus on the conclusion or question
3. to take into account the total situation
4. to seek and offer reasons
5. to try to be well informed
6. to look for alternatives
7. to seek as much precision as the situation requires
8. to try to be reflectively aware of one's own basic beliefs
9. to be open-minded and consider seriously other points of view than one's own
10. to withhold judgment when the evidence and reasons are insufficient
11. to take a position (and change a position) when the evidence and reasons are sufficient to do so
12. to use one's critical thinking abilities

B. Abilities of the ideal critical thinker:

(The first five items involve clarification.)

1. to identify the focus (the issue, question, or conclusion)
2. to analyze arguments
3. to ask and answer questions of clarification and/or challenge
4. to define terms, judge definitions, and deal with equivocation
5. to identify unstated assumptions

(The next two involve the *basis* for the decision.)

6. to judge the credibility of a source
7. to observe, and judge observation reports

(The next three involve *inference*.)

8. to deduce, and judge deductions
9. to induce, and judge inductions
 - a) to generalisations
 - b) to explanatory conclusions (including hypotheses)
10. to make and judge value judgments

(The next two are *metacognitive* abilities—involving *supposition* and *integration*.)

11. to consider and reason from premises, reasons, assumptions, positions, and other propositions with which one disagrees or about which one is in doubt—without letting the disagreement or doubt interfere with one's thinking ('suppositional thinking')
12. to integrate the other abilities and dispositions in making and defending a decision

(The next four are *auxiliary critical thinking abilities*—having them is not constitutive of being a critical thinker.)

13. to proceed in an orderly manner appropriate to the situation, for example,
 - a) to follow problem solving steps
 - b) to monitor one's own thinking
 - c) to employ a reasonable critical thinking checklist
14. to be sensitive to the feelings, level of knowledge, and degree of sophistication of others
15. to employ appropriate rhetorical strategies in discussion and presentation (orally and in writing)
16. to employ and react to 'fallacy' labels in an appropriate manner

²² Robert H Ennis, 'Critical Thinking: A Streamlined Conception,' *Teaching Philosophy* 14, no. 1 (1991): 5–24., 8–9.

1.1.2 Ennis' dispositions

Ennis attempts to move away from a 'pure skills' approach by adding critical thinking dispositions to his list of abilities. By describing critical thinking in terms of the type of motivations and abilities a critical thinker possesses, Ennis leaves gaps. I argue that these gaps are indicative of a danger with the *act-based* approach: those who take an *act-based* approach are faced with the complicated analytical task to provide a description of skills and dispositions that avoids inadequacy.

Ennis' *auxiliary critical thinking abilities* are interesting. He describes them as 'not constitutive of being a critical thinker,' but considering the contrapositive undermines this description: if someone does not monitor his own thinking, follow problem-solving steps or employ and react to 'fallacy labels' in an appropriate manner, it would be unfitting to call him an ideal critical thinker. According to Ennis, abilities 13, 15 and 16 involve 'appropriate' application, and this is also implicit in ability 14. Numbers 13(b) and 14, however, seem better placed in his list of dispositions. Ennis' depiction of ideal critical thinkers fails to include the qualificatory 'appropriate' he found necessary to add to his *auxiliary critical thinking abilities* and this is puzzling. Why does reacting to fallacy labels require appropriateness conditions, when asking challenging questions does not? Fruitful dialogue can be easily derailed by an ill-timed or pedantic challenging question just as easily as it can by an unfair challenge of fallacy.

It is my contention that Ennis' dispositions are deficient in that they do not *all* specify appropriateness conditions. Consider number 1, the disposition *to be clear about the intended meaning of what is said, written, or otherwise communicated*. Clarity is undoubtedly important—someone who is obscure in order to hide a deficiency in her arguments would not be an ideal critical thinker. Nor would one be an ideal critical thinker if, under pressure, one resorted to the use of jargon in order to keep others at a distance, making them fearful of appearing an amateur in an area of high technicality. Therefore, the disposition *to be clear* is rightfully found in those we call critical thinkers. However, this disposition should not be exercised at the cost of crudity. During a debate, one should not wish to be obscure for the

sake of being obscure, but one may find it necessary to be subtle and complicated so as to not misrepresent the argument. In many cases, expounding a position in a clear manner would not do it justice, and in these cases, the ideal critical thinker may deem it necessary to be nuanced or find it is useful to say something that has a number of meanings. A critical thinker is not one who is *always* clear, but one who knows when it is appropriate to be clear and when it is appropriate to use language that is suggestive and rich, and possibly imprecise.

Dispositions 2 and 3 can be treated together, since each reminds us that a critical thinker should not be disposed too much in one direction: if one is only disposed *to focus on the question*, one may miss fruitful paths of inquiry which may greater aid in illumination of a problem; if one is always disposed *to take into account the whole situation*, then one may fail to pay attention to specifics or applications when it is here that attention should be directed. Instead, dispositions 2 and 3 should be seen as opposing ends of a spectrum, and by placing them together Ennis seems to be gesturing towards this. At times a critical thinker must *maintain focus on the conclusion or question*, and at other times a critical thinker should *take into account the total situation*. Again we can see that an ideal critical thinker is not someone who is disposed to act in these ways, but one who is disposed to act in these ways when it is appropriate to do so. The fact that these activities are at points opposed is particularly problematic without added appropriateness-conditions. In cases in which a person were to *maintain focus on the conclusion* to the detriment of *taking into account the entire situation*, we would not be able to determine whether she was a critical thinker also without taking into consideration the context, and whether it is appropriate to do one and not the other.

The disposition *to be open-minded* (number 9), also suffers from the lack of a qualificatory 'when appropriate.' If *open-minded* means being receptive to good reasons, what sort of receptivity is required? If open-mindedness means being willing to listen to, consider, investigate and eventually assess reasons that have the potential to be good reasons, then nobody has the energy or time to be fully open-minded. An ideal critical thinker, rather, knows when it is *appropriate* to follow up a line of reasoning. They are firm when appropriate and

know when it is appropriate to consider an objection seriously. One who relentlessly considers objections, no matter how frivolous, is not an ideal critical thinker. Open-mindedness is certainly a good quality to display, but only when it is appropriate; there are many contexts where it presents an impediment to critical thinking. These will be discussed in chapter 3.

Moreover, we can see that even the disposition *to use one's critical thinking abilities* obviously requires warning that one should not always be disposed to do so. Those who teach critical thinking know all too well what it is like to have students misapply and over-apply their newly-fledged critical thinking abilities in situations that are inappropriate. An ideal critical thinker would know when it is right to passively accept information, when it is proper to accuse others of fallacy, and when it is best to ignore minor mistakes to get a better understanding of the whole.

Ennis alters his list of dispositions again in 1996 (see Table 2 and Table 3) which show he is not satisfied with his 1991 list. Importantly, he modifies the disposition involving clarity to include the caveat to 'seek as much precision as the situation requires' (which can be interpreted as an addition of an appropriateness condition). The 1991 ability 13(b), to monitor one's thinking, previously mentioned as more suitable in a list of dispositions, is added to them in 1996 in the form of the disposition to '[b]e reflectively aware of their own basic beliefs.' Some dispositions listed in 1987 are rightly omitted (such as 4, the disposition *to use and mention credible sources*) and 1996's disposition to be open-minded is split so as to claim that one should be open-minded both to alternatives and positions other than one's own. These changes are better seen as Ennis wrestling with the inherent problem of dividing a characteristic into its attendant necessary traits rather than as indecision. The changes show he is concerned that he has not completely got things right.

Table 2: Ennis' critical thinking dispositions from 1987 to 1996

1987 ²³	1991 ²⁴	1996 ²⁵
1. Seek a clear statement of the thesis or question	1. To be clear about the intended meaning of what is said, written, or otherwise communicated	1. Care that their beliefs be true, and that their decisions be justified; that is, care to 'get it right' to the extent possible, or at least care to do the best they can. This includes the interrelated dispositions to do the following:
2. Seek reasons	2. To determine and maintain focus on the conclusion or question	A. Seek alternatives (hypotheses, explanations, conclusions, plans, sources), and be open to them;
3. Try to be well informed	3. To take into account the total situation	B. Endorse a position to the extent that, but only to the extent that, it is justified by the information that is available;
4. Use and mention credible sources	4. To seek and offer reasons	C. Be well-informed; and
5. Take into account the total situation	5. To try to be well informed	D. Seriously consider points of view other than their own.
6. Try to remain relevant to the main point	6. To look for alternatives	2. Represent a position honestly and clearly (theirs as well as others'). This includes the dispositions to do the following:
7. Keep in mind the original and/or basic concern	7. To seek as much precision as the situation requires	A. Be clear about the intended meaning of what is said, written, or otherwise communicated, seeking as much precision as the situation requires;
8. Look for alternatives	8. To try to be reflectively aware of one's own basic beliefs	B. Determine, and maintain focus on, the conclusion or question;
9. Be open-minded	9. To be open-minded and consider seriously other points of view than one's own	C. Seek and offer reasons;
a) Consider seriously other points of view than one's own (dialogical thinking)	10. To withhold judgment when the evidence and reasons are insufficient	D. Take into account the total situation; and
b) Reason from premises with which one disagrees - without letting the disagreement interfere with one's reasoning (suppositional thinking)	11. To take a position (and change a position) when the evidence and reasons are sufficient to do so	E. Be reflectively aware of their own basic beliefs.
c) Withhold judgement when the evidence and reasons are insufficient	12. To use one's critical thinking abilities	3. Care about the dignity and worth of every person. This includes the dispositions to:
10. Take a position (and change a position) when the evidence and reasons are sufficient to do so		A. Discover and listen to others' view and reasons;
11. Seek as much precision as the subject permits		B. Take into account others' feelings and level of understanding, avoiding intimidating or confusing others with their critical thinking prowess; and
12. Deal in an orderly manner with the parts of a complex whole		C. Be concerned about others' welfare.
13. Use one's critical thinking abilities		
14. Be sensitive to the feelings, level of knowledge, and degree of sophistication of others		

²³ Ennis, 'A Taxonomy of Critical Thinking Abilities and Dispositions.'

²⁴ Ennis, 'Critical Thinking: A Streamlined Conception.'

²⁵ Robert H Ennis, 'Critical Thinking Dispositions: Their Nature and Assessability,' *Informal Logic* 18, no. 1996 (1996): 165–182.

Table 3: Tracking Ennis' critical thinking dispositions from 1987 to 1996

	1. Care that their beliefs be true, and that their decisions be justified; that is, care to 'get it right' to the extent possible, or at least care to do the best they can. This includes the interrelated dispositions to do the following:				2. Represent a position honestly and clearly (theirs as well as others'). This includes the dispositions to do the following:					3. Care about the dignity and worth of every person. This includes the dispositions to:				
	Seek alternatives (hypotheses, explanations, conclusions, plans, sources), and be open to them	Endorse a position to the extent that, but only to the extent that, it is justified by the information that is available	Be well-informed	Seriously consider points of view other than their own	Be clear about the intended meaning of what is said, written, or otherwise communicated, seeking as much precision as the situation requires	Determine, and maintain focus on, the conclusion or question	Seek and offer reasons	Take into account the total situation	Be reflectively aware of their own basic beliefs	Discover and listen to others' view and reasons	Take into account others' feelings and level of understanding, avoiding intimidating or confusing others with their critical thinking prowess	Be concerned about others' welfare.		
1996	1A	1B	1C	1D	2A	2B	2C	2D	2E	3A	3B	3C		
1991	6	9	10	11	5	1	7	2	4	3	8	12		
1987	8	9a)	9	9c)	10	3	1	11	6	2	5	14	13	4, 7, 9b), 12

Despite some improvements over time, a major problem with Ennis' attempt to characterise an ideal critical thinker in terms of dispositions and abilities remains: dividing attributes of an ideal critical thinker into lists of dispositions and lists of abilities means that these attributes must interact properly together and be coordinated with the right sense of success. It is easy to imagine situations in which the dispositions and abilities are misapplied, or applied by someone we would not consider an ideal critical thinker. For example, if the items on Ennis' list are to be applied as rules, then those who rigorously apply Ennis' rule of open-mindedness would be forced into the undesirable position of fully investigating the *bona fides* of an objection any time somebody approaches them. Taken as rules, Ennis' dispositions are impossible to follow all at once—there are times where considering the views of others is less important than being clear and focussing on the question at hand.

I defend a virtue epistemic approach to the conception of critical thinking. A virtue epistemic approach has two immediate benefits. First, the direction of analysis in virtue theory is clear: processes are derivative of agents, rather than vice versa. Second, virtue epistemology provides a teleological conception of critical thinking dispositions; identifying the *aim* of critical thinking allows us to both determine its constitutive features and describe how they interact with each other. If we conceive the ideal critical thinker as one who has certain intellectual virtues, such as open-mindedness, self-awareness, and prudent wariness, then problems concerning the appropriateness of blindly or foolishly following rules are properly identified and acknowledged. Ennis (and others who are inclined to provide act-based lists of these sorts) may believe that a teleological account of the attributes of a critical thinker may beg all the important questions and not be sufficiently analytic; that adding 'when it is appropriate' to a list of traits is unhelpful or possibly illicit. However, attempting to build the portrait of a critical thinker or the process of thinking critically with a non-teleological analysis of critical thinking dispositions is not going to work: the dispositions may clash or not coordinate properly; in some contexts they may function where in others they may not; and

their application is often, if not always, dependent on a kind of golden mean—too much open-mindedness, and concern for others’ welfare can be a bad thing.

1.2 Passmore’s ‘critical spirit’

John Passmore, when defining what it means to be critical, avoids lists and concludes that we call someone critical if they have a critical spirit. Although Passmore does not specifically provide an analysis of critical thinking, a term he eschews, it is a valuable treatment of the character traits of those we call critical.²⁶ His analysis, though not a response to Ennis, can be seen as a prescient concern for the direction in which Ennis and later theorists were headed.

1.2.1 Teaching a student to be critical

Passmore argues that teaching a student to be critical obviously ‘is not a matter of imparting facts,’ and it also is not something that can come from a process of drill, since ‘[a] person can be drilled into uttering stock criticisms.’²⁷ For example, Passmore states that a person has not been taught to be critical if he has been drilled so that ‘whenever he hears a certain type of philosophical view put forward, [he states] “That’s nineteenth-century materialism,” or “That’s old-fashioned rationalism.”’²⁸

Passmore considers whether teaching a student to be critical involves the teaching of skills. He shows that it would be at least hypothetically possible for a student to learn all of the exercises in a critical thinking textbook but not to apply these associated skills in an external setting. Again, this student, according to Passmore, would not be critical. Instead, Passmore holds that

‘Being critical’ is, indeed, more like the sort of thing we call a ‘character trait’ than it is like a skill. To call a person ‘critical’ is to characterize him, to describe his nature, in a sense in which to describe him, simply, as ‘capable of analysing certain kinds of fallacy’ is not to describe his

²⁶ Passmore, ‘On Teaching to Be Critical.’, 33.

²⁷ Ibid., 25.

²⁸ Ibid., 26.

nature. It is a natural answer to the question ‘What kind of person is he?’ to reply ‘Very critical’, when it would not be a natural answer that the person in question is a skilful driver.²⁹

Again, we find an important difference here between *critical thinking* and *being a critical thinker*. Passmore demonstrates that although *critical thinking* is a necessary and regular activity of the *critical thinker*, the former it is not in itself sufficient for the latter. He continues to illuminate the distinction: *critical thinking* is capable of being misused, such as how the ‘expert in the detection of fallacies can use his skill in order to conceal the fallacies in his own case, by drawing attention away from them.’³⁰ According to Passmore, one can have sophisticated critical thinking skills without being in any way a critical thinker. In fact, as was mentioned before, Passmore worries that critical thinking ‘may suggest nothing more than the capacity to think up objections.’³¹ Passmore gives further insight as to why Ennis’ *disposition to use one’s critical thinking abilities* is problematic: being disposed to use one’s critical thinking abilities is not the best measure of whether one is critical, particularly if we take Passmore’s meaning—that one is disposed (and able) to think up objections. Clearly, what Ennis is reaching towards is that a person would not be much of a critical thinker if she were never tempted to use her abilities even if they were considerable. However, to thus insist that a critical thinker should exercise her critical thinking skills from time to time provides an incomplete picture—not incomplete in the sense that there are other dispositions that need to go alongside it, but incomplete in that it is missing an aim and, by being able to accommodate misuse, is lacking standards for proper use. In contrast, Passmore introduces the concept of the ‘critical spirit’—something which he says ‘cannot be misused’:

No doubt those who possess [the critical spirit] may sometimes be led, as a result of their exercise of criticism, to abandon views, which are actually correct, as a just man can make a wrong decision, in virtue of being just, in a case where he would have made the right decision had he allowed partiality to sway him... But this is quite different from the case where a judge uses the sort of skill he has acquired as a judge in order to pervert the course of justice. The

²⁹ Ibid., 28.

³⁰ Ibid., 28.

³¹ Ibid., 33.

skills of a judge, or the skills of a critic, can be used or misused; justice or the critical spirit can be neither used nor misused. And this is because neither being just nor being critical is a skill.³²

There are multiple interpretations of ‘misuse’ that need to be drawn out. Consider three cases. First, the wit who cleverly employs ambiguous language in order to bring about a humorous result; second, the politician who cunningly uses ambiguous language to conceal a lie; third, the precocious critical thinking student, who is skilled in detecting arguments, but who exercises his skills at every possible turn, irritating interlocutors, and derailing valuable conversations in order to naggingly prove someone wrong. In each case, Ennis’ disposition to *use one’s critical thinking abilities* would be satisfied. He only avoids the implausible conclusion that every case could be called an instance of critical thinking because some contravene other critical thinking dispositions, such as to *represent a position honestly*; the wit would have been a critical thinker had he only used his skills to assess arguments instead of produce punch-lines; the politician would have been a critical thinker had he only used his skills to seek the truth; the precocious student would have been a critical thinker had he only chosen the right place and time to exercise his skills.

We avoid this ‘had they only’ problem if we think of critical thinkers as certain types of people instead of people in possession of a set of dispositions that are capable of misuse. This is the value in Passmore’s conception of criticality as a character trait: being able to think up objections is only part of what it means to have the critical spirit. Our three cases may or may not be instances of Passmorean critical thinking; however, according to Passmore, none describe critical *people*, since none exemplify the critical spirit. The wit’s arena is critical thinking, but he is not the ideal critical thinker by Passmore’s judgement as he uses his logical skills to reach for a different goal. The politician survives on his use of critical thinking, but if he only uses her critical thinking skills to deceive, then, for Passmore, he is not the ideal critical thinker since he uses his skills to bring about a worthless end. The precocious student who overuses his critical thinking skills fails to be critical since he fails to control his abilities or

³² Ibid., 28.

judge which circumstances are appropriate or inappropriate for critical analysis. Passmore's conception anticipates much of the critical thinking debate: by describing whether one is critical or not in terms of possessing a particular character trait, Passmore shows why attempts to engender it in students often fail.³³ Skills lend themselves to teaching, but whether it is possible to change character through education has long been controversial.

1.3 McPeck's conception of critical thinking in *Critical Thinking and Education*

John McPeck published his *Critical Thinking and Education*³⁴ in 1981 and this became an influential criticism of not just Ennis, but of the entire critical thinking movement which had arisen in the years after Ennis' initial work. McPeck's work claims critical thinking is specific to subjects and that attempts to teach it as a standalone course are misguided. This book can be seen as the beginning of the 'critical thinking debate,' which pitches *specificists*, those (like McPeck) who hold that critical thinking cannot be taught outside a subject; against *generalists*, those, (like Ennis and Siegel) who hold that it can. McPeck builds a case against what he calls 'The Prevailing View of the Concept of Critical Thinking,' and attacks conceptions by Ennis, Scriven, de Bono and others.³⁵ It is unclear where McPeck would place Passmore. Passmore does agree that it is difficult to impart the *critical spirit* through teaching, since it is a character trait rather than a set of skills or habits; however, McPeck is not satisfied with this account:

I do not think that John Passmore's referring to this combination [of capacity and will] as a 'character trait', is particularly helpful, since a character trait seems to consist in a more general disposition that applies across a wide variety of endeavours. In addition, a character trait connotes something more or less immutable in one's personality that is largely affective in nature.³⁶

³³ Ibid., 28.

³⁴ McPeck, *Critical Thinking and Education*.

³⁵ Ibid., 39.

³⁶ Ibid., 18.

When we consider McPeck's main thesis, that critical thinking cannot be taught in a standalone course and '[p]urporting to teach critical thinking... in isolation from specific fields or problem areas, is muddled nonsense,' it becomes obvious why he disdains Passmore's idea of an enduring trait that 'applies across a wide variety of endeavours.' The critical thinking debate will be examined later. As it is our current focus, we turn now to McPeck's conception of critical thinking—and it is on this that his main thesis depends.

1.3.1 McPeck's Thinking is Always Thinking About X Argument (TIATAXA)

McPeck begins his analysis of critical thinking by providing an analysis of *thinking*. He claims that

... it is a matter of conceptual truth that thinking is always *thinking about X*, and that X can never be 'everything in general' but must always be something in particular. Thus the claim 'I teach students to think' is at worst false and at best misleading.³⁷

This argument is later referred to by many theorists, including John Andrews, who gives it a convenient acronym: the TIATAXA (*Thinking Is Always Thinking About X Argument*).³⁸ After establishing the link between thinking and particular objects of thought, McPeck concludes that adding the adjective 'critical' simply describes the manner in which the thinking is performed. Thus,

[t]he statement 'I teach critical thinking', *simpliciter*, is vacuous because there is no generalized skill properly called critical thinking.³⁹

For McPeck, this follows because 'critical' is an adjective like 'creative' and 'precocious'; and it makes no sense to claim 'I teach precocity'.⁴⁰

There are errors here that need to be brought out: 'precocious' does compare to 'critical' in the sense that both are adjectives, but 'critical thinking' differs from 'precocious

³⁷ Ibid., 4.

³⁸ JN Andrews, 'General Thinking Skills: Are There Such Things?,' *Journal of Philosophy of Education* 24, no. 1 (1990).

³⁹ McPeck, *Critical Thinking and Education*., 5.

⁴⁰ Ibid., 5.

thinking’ in that the former has a history of use which makes the statement ‘I teach critical thinking’ meaningful. McPeck himself, three pages prior while lamenting the vagueness of the term *critical thinking*, noted that it has been used to describe a range of activities from ‘Latin to logic and clever puzzle games.’⁴¹ So if we allow the statement ‘I teach critical thinking’ to take on one of the meanings McPeck explicitly acknowledges, such as ‘I teach Latin’, then the statement makes perfect sense. (Whether teaching Latin is teaching critical thinking is beside the point.) A further concern is that in comparing his adjectives, McPeck does not state that ‘I teach precocious *thinking*’ makes no sense, but rather ‘I teach precocity’ makes no sense: removing ‘thinking’ renders the two statements awkward to compare. Finally, it makes no sense to teach either precocity or precocious thinking for special reasons to do with the very idea of precocity. Precocity is a capacity to pick something up with minimal instruction or to acquire skills much more easily, quickly and at a younger age than the average. Of course it cannot be taught.

Perry Weddle observes that although thinking may always be about something, the conclusions McPeck draws from this do not necessarily apply to the composite term ‘critical thinking.’⁴² Weddle explains how to respond to a McPeckean challenge:

So when to the remark, ‘I teach critical thinking,’ McPeck asks, ‘About what?’ one might well reply, ‘Not ‘about’ at all. Critical thinking is a subject; thinking isn’t. Critical thinking teaches such matters as the art of following and summarizing paths of reasoning, the art of arguing fairly and forcefully, and the art of not being swayed by sophistry. Its examples, from many fields are, of course, ‘about’; but its focus isn’t the subjects, it’s **techniques for dealing with** subjects in certain ways.’⁴³

Siegel, too, finds fault in McPeck’s TIATAXA, in that ‘it confuses thinking generally (i.e. as denoting a *type* of activity) with specific *acts* (i.e. *tokens*) or instances of thinking.’⁴⁴ Although Weddle previously showed that the compound term need not take on that which is attributed to its parts, namely, *thinking*, Siegel’s response shows that although a single act of thinking is

⁴¹ Ibid., 2.

⁴² Perry Weddle, ‘McPeck’s Critical Thinking and Education,’ *Informal Logic* 6, no. 2 (1984): 23–25.

⁴³ Ibid., 24 (emphasis in original).

⁴⁴ Siegel, *Educating Reason: Rationality, Critical Thinking and Education.*, 19.

inseparable from its subject, this is a *token* of thinking, and *critical thinking* describes a *type*. Whether providing students with instruction can increase the occurrence of this *type* of thinking is an empirical question to be considered later, but it is clearly not nonsense to have this instruction in mind when one states ‘I teach critical thinking.’

1.3.2 McPeck’s ‘reflective scepticism’

McPeck’s TIATAXA does not succeed; nonetheless, McPeck offers his own positive conception of critical thinking. He admits that it does make sense to speak of ‘critical thinking’ (though nonsense to speak the words ‘I teach critical thinking’). His line of reasoning for this:

It has already been argued that thinking is always thinking about something—for example, some problem, activity or subject area. And only such things as problems, activities or subjects can be thought about critically. Critical thinking always manifests itself in connection with some identifiable activity or subject area and never in isolation. Consequently, just as there are innumerable activities and types of activity that can be thought about critically, so there are innumerable ways in which critical thinking can be manifested. Just as certain activities can be done well or poorly, so certain activities can be done critically or uncritically. There are many distinct types of behaviour that could count as ‘critical thinking behaviour’. In some instances, such behaviour might outwardly manifest itself in an act requiring physical strength, in others dexterity, perhaps most often in the assessment of statements of some kind.⁴⁵

It is important to note here the idea that manifestations of critical thinking vary with the activity, and the introduction of feats of strength as being possible instances of ‘critical thinking behaviour’ (as a contrast to Ennis’ ‘assessment of statements’). McPeck does hint that not every activity entails an attendant critical-thinking-manifestation ‘Given the large spectrum of activities that allow of critical thinking...’—though he is never clear what activities do not.⁴⁶

An ‘innumerable amount of activities that allow for critical thinking’ leading to innumerable manifestations of critical thinking would make analysis of the concept difficult; there is, thankfully, a thread that ties these innumerable critical-thinking-manifestations together. According to McPeck, the innumerable critical-thinking-manifestations all appear to have the same element of scepticism, a ‘suspension of assent, towards a given statement,

⁴⁵ McPeck, *Critical Thinking and Education*., 5-6.

⁴⁶ *Ibid.*, 6.

established norm or mode of doing things.’⁴⁷ The scepticism cannot be frivolous, McPeck maintains, but must be judicious—and that knowing into which of these categories the scepticism falls ‘must be determined by the norms and standards of the subject area in question.’⁴⁸

As he believes that all critical thinking instances have in common an element of scepticism, McPeck gives his definition of critical thinking as:

[Critical thinking] is the appropriate use of *reflective scepticism* within the problem area under consideration. And knowing how and when to apply this reflective scepticism effectively requires, among other things, knowing something about the field in question.⁴⁹

McPeck embeds in his definition of critical thinking the qualification ‘appropriate,’ and explains that the determination of ‘appropriate’ is dependent upon the field in which the reflective scepticism occurs. By claiming that ‘the criteria for the judicious use of scepticism are supplied by the norms and standards of the field under consideration,’ it becomes clear that his definition is unhelpfully truistic: ‘the field under consideration provides the standards with which to question the field under consideration.’⁵⁰ Siegel is quick to unearth its circularity:

We would need to use critical thinking to determine whether any particular instance of reflective skepticism is or was in fact justified. Hence justified reflective skepticism *assumes* critical thinking; consequently it cannot in turn explicate or define critical thinking.⁵¹

In an attempt to avoid inadequacy, McPeck has given a definition for critical thinking that is circular. McPeck’s approach is *act-based*, as can be seen below in his longer, formal outline of his conception of a *critical thinker* as:

Let X stand for any problem or activity requiring some mental effort.
Let E stand for the available evidence from the pertinent field of problem area.
Let P stand for some proposition or action within X.

⁴⁷ Ibid., 6.

⁴⁸ Ibid., 7.

⁴⁹ Ibid., 7.

⁵⁰ Ibid., 7-8.

⁵¹ Siegel, *Educating Reason: Rationality, Critical Thinking and Education.*, 23.

Then we can say of a given student (S) that he is a critical thinker in area X if S has the disposition and skill to do X in such a way that E, or some subset of E, is suspended as being sufficient to establish the truth or viability of P.⁵²

Although McPeck's formal outline appears to be stronger, closer inspection shows that it simply states that one is critical thinker if one has the skill and disposition to use critical thinking. As such, it inherits the flaws in his conception of 'critical thinking'. Dropping the 'appropriate' in his conception of 'critical thinker' solves the problem of circularity; however, doing so renders the definition inadequate, as the problems outlined in Ennis' conception regarding dispositions absent of appropriateness conditions apply here as well. It appears as though McPeck and Ennis (and *act-based* approaches in general) are trapped in a dilemma: providing an adequate conception requires circularity, and avoiding circularity renders conceptions inadequate.

1.4 Siegel's 'appropriately moved by reasons'

Although Harvey Siegel, in his 1988 *Educating Reason* does not agree with McPeck's reflective scepticism, he does see value in McPeck's formal definition of a critical thinker and paraphrases it as 'the critical thinker has the disposition and skill to question the power of E to warrant P.' He further clarifies this statement as meaning: 'the critical thinker has the disposition and skill to query the extent to which E actually provides compelling reasons for P, or justifies P.'⁵³ Siegel believes that it 'under-values critical thinking to regard it simply as another... skill area' and that it should be seen as a constellation of 'dispositions, habits of mind, and character traits as well as skills.'⁵⁴ He offers as his definition:

A critical thinker... is one who is appropriately moved by reasons: she has a propensity or disposition to believe and act in accordance with reasons; and she has the ability properly to assess the force of reasons in the many contexts in which reasons play a role.⁵⁵

⁵² McPeck, *Critical Thinking and Education*., 9.

⁵³ Siegel, *Educating Reason: Rationality, Critical Thinking and Education*., 23.

⁵⁴ Ibid., 8.

⁵⁵ Ibid., 23.

Siegel identifies in both McPeck's and his own conception 'two central components:' a '*reason assessment*' component, and a '*critical attitude or critical spirit component*.'⁵⁶ The *reason assessment* component of a critical thinker requires that a critical thinker be capable of properly 'assess[ing] reasons and their ability to warrant beliefs, claims and actions.'⁵⁷ For Siegel, this means that the critical thinker understands and can use 'principles governing the assessment of reasons.'⁵⁸ By dividing these principles into those that are subject-specific and those that are subject-neutral, Siegel's *reasons assessment* component makes explicit what Ennis' conception did not:

Subject-neutral principles include all those principles typically regarded as 'logical,' both informal and formal. So, for example, principles regarding proper inductive inference, avoiding fallacies, proper deductive inference—in fact, virtually all that is usually included in informal logic texts, and virtually all of Ennis's list of proficiencies—count as subject-neutral logical principles. On the other hand, principles which apply only to specific subjects or areas of inquiry—e.g. principles governing the proper interpretation of bubble chamber photographs in particle physics, or those governing proper assessment of works of art, or novels, or historical documents, or the design of bathroom plumbing fixtures—are (as McPeck insists) though not general, nevertheless of central importance for critical thinking.⁵⁹

Siegel takes this opportunity to mention that there is 'no *a priori* reason for regarding either of these types of principles as more basic (or irrelevant) to critical thinking than the other,' so McPeck's idea that subject-neutral principles are useless (or trivial) and that subject-specific principles are primary is 'beside the point'—both are needed, and neither should be said to have importance over the other.⁶⁰

For Siegel, the *reason assessment* component is necessary, but insufficient for critical thinking. For someone to be appropriately moved by reasons, the person must be disposed to act critically. Siegel, like Passmore, calls this the *critical spirit* or *critical attitude* component of a critical thinker. According to Siegel,

One who has the critical attitude has a certain character as well as certain skills: a character which is inclined to seek, and to base judgement and action upon, reasons; which rejects

⁵⁶ Ibid., 23.

⁵⁷ Ibid., 34.

⁵⁸ Ibid., 34.

⁵⁹ Ibid., 34-35.

⁶⁰ Ibid.

partiality and arbitrariness; which is committed to the objective evaluation of relevant evidence; and which values such aspects of critical thinking as intellectual honesty, justice to evidence, sympathetic and impartial considerations of interests, objectivity, and impartiality.⁶¹

Siegel here insists that it is necessary be a particular type of person in order to be a critical thinker. Siegel differs from Passmore (for whom an account of ‘critical’ ends after an account of a ‘critical’ person) by describing the types of abilities that a critical person would be expected to have. However, we may read Siegel’s description as illustrative rather than analytic; it is secondary to character and includes skills that the critical thinker appreciates and applies. Siegel notes a difference between discussion of the critical thinking dispositions in terms of qualities of persons, and Ennis’ ‘micro-dispositions’ which Siegel states are focussed on bringing about analysis of statements.⁶²

Siegel’s analysis, though it begins by stating critical thinking is a mix of skills and dispositions, can now be seen as *agent-based*: critical thinking is derivative of the concept of the critical thinker. What is of great value in Siegel’s approach is that he is able to provide detail as to the processes of critical thinking, but always does so with a mind to its source in agents.

1.5 The ‘Delphi’ report

In 1990, a definition for critical thinking was generated by the American Psychological Association’s Delphi panel, under the leadership of Peter Facione. The panel consisted of 46 experts in critical thinking, and sought, through use of the ‘Delphi Method’, to reach a consensus regarding the definition of critical thinking and its parts (see Appendix 2 for the consensus statement and Appendix 3 for the panel’s list of the ‘Affective Dispositions of Critical Thinking’).⁶³ The panel separates critical thinking into skills and dispositions. The majority of experts agreed upon the following definition of the latter:

⁶¹ Ibid., 39.

⁶² Ibid., 8.

⁶³ The ‘Delphi method’ was invented in the 1950s by the RAND Corporation. It involves providing a panel with a series of questions, to which they respond with both their answers and their reasoning.

Although the language here is metaphorical, one would find the panelists to be in general accord with the view that there is a critical spirit, a probing inquisitiveness, a keenness of mind, a zealous dedication to reason, and a hunger or eagerness for reliable information which good critical thinkers possess but weak critical thinkers do not seem to have. As water strengthens a thirsty plant, the affective dispositions are necessary for the CT skills identified to take root and to flourish in students.

From the *strengthening-water-is-to-thirsty-plant-as-critical-thinking-dispositions-are-to-critical-thinking-skills* analogy, it is clear that this is an *act-based* approach; that the water (dispositions) is *strengthening* suggests the plant (skills) is (are) already present. Interestingly, although this statement describes a type of person (and the type of person one would reasonably consider to have good qualities), the report states that '[t]he majority of experts (52%) forcefully reject the proposed normative use of "CT"' and that only 17% of experts held that 'critical thinking' should be used in a normative sense.⁶⁴ Facione reports that it was these 17% of experts that believed one would not be a critical thinker if one used critical thinking abilities for immoral ends. In contrast, the majority of experts held that even if critical thinking is misused, it is still critical thinking and '[i]t is an inappropriate use of the term to deny that someone is engaged in CT on the grounds that one disapproves ethically of what the person is doing.' The examples that are given of unethical critical thinking are similar to that of Passmore's misuse of the critical spirit—attorneys who use their critical thinking skills to cunningly deceive a jury.

What is clear from the Delphi report is that 'normative' is used only in its ethical sense: prospective critical thinkers fail to become so due to breaches of ethical norms. It is no surprise that this view is held by the minority. However, to conclude from this that critical thinking is not a normative term is to rely on a false understanding of 'normative'. In fact, later conceptions of critical thinking, such as those given by Sharon Bailin and Harvey Siegel specifically emphasise the normative component:

These answers and their reasoning are then anonymously returned to the members of the panel as feedback, and the process repeats itself until a consensus is found.

⁶⁴ Peter A Facione, "Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction. Research Findings and Recommendations.," *ERIC Doc No: ED. 315 423.*, 1990.

Critical thinking is, first and foremost, a variety of good thinking. As such, any adequate account of it must explain the sense in which it is good. We begin by emphasizing this *normative* character of critical thinking. This emphasis distinguishes our conception, and philosophical conceptions more generally, from psychological conceptions, which are essentially descriptive—describing psychological processes, procedures, and/or skills thought to be central to critical thinking.⁶⁵

Bailin and Siegel contrast what they call the *philosophical approach* with the *psychological approach*. According to a philosophical approach, ‘[t]o characterize thinking as “critical” is, accordingly, to judge that it meets relevant standards or criteria of acceptability, and is thus appropriately thought of as “good.”’⁶⁶ In this approach, critical thinking is normative, but not necessarily *ethically* normative.

Examples of ‘philosophical approaches’ to the conception of critical thinking include those offered by Siegel, who talks of the project of critical thinking as

... upholding the importance of the fundamentally normative dimension of thinking, which is skilled exactly insofar as it is of a certain *quality*, that is, that satisfies relevant criteria to a certain degree.⁶⁷

Sharon Bailin et al. also capture the normative component of critical thinking: ‘... critical thinking is in some sense good thinking. It is the quality of the thinking, not the processes of thinking, which distinguishes critical from uncritical thinking.’⁶⁸ More recently, Sharon Bailin and Mark Battersby describe the normative component of critical thinking in terms of its aims: ‘whatever the particular role or intention [of critical thinking], because the ultimate epistemological goal is to reach a reasoned judgment, the normative structure of the practice necessitates inquiry.’⁶⁹

⁶⁵ Sharon Bailin and Harvey Siegel, “Critical Thinking,” in *The Blackwell Guide to the Philosophy of Education*, ed. Nigel Blake et al. (Oxford, UK: Blackwell Publishing Ltd, 2003), 181. Bailin et al. explain in an earlier article how the psychological approach is problematic. See Sharon Bailin et al., “Common Misconceptions of Critical Thinking,” *Journal of Curriculum Studies* 31, no. 3 (May 1999): 269–83.

⁶⁶ Bailin and Siegel, “Critical Thinking,” 181.

⁶⁷ Harvey Siegel, “On Thinking Skills,” in *Teaching Thinking Skills*, ed. Christopher Winch, 2nd ed. (New York, NY: Continuum International Publishing Group, 2000), 51–84., 83.

⁶⁸ Sharon Bailin et al., “Conceptualizing Critical Thinking,” *Journal of Curriculum Studies* 31, no. 3 (May 1999): 285–302., 288.

⁶⁹ Sharon Bailin and Mark Battersby, “Fostering the Virtues of Inquiry,” *Topoi*, 2015, 3.

1.6 Stagnation

Attempts to define critical thinking, and, by extension, the ‘critical thinking debate’, have continued since McPeck’s original attack. Examples of an ongoing debate include an exchange between Stephen Johnson and Harvey Siegel in *Teaching Thinking Skills*, an edited volume in which Johnson, in response to curricular reforms in the United Kingdom placing a higher importance on learning skills, advances the McPeckean argument and Siegel responds.

Johnson’s summary of his position is as follows:

1. The appeal of thinking skills rests largely on the view that they are generally transferable. This view is mistaken.
2. The myth of general transferability rests upon a number of fallacies and conceptual errors.
3. The direct approach to teaching thinking can lead to knowledge playing a subsidiary role and even being seen as an impediment.
4. ‘Mental processes’ are dubious entities and access to them is highly problematic. They support the myth of general transferability and encourage a checklist approach to thinking.
5. Suggested examples of general thinking skills do not stand up to examination.
6. Thinking skills present dangers: the disparagement of knowledge, the impersonalizing and neutralizing of thought, the neglect of truth, and the computerization of thought.⁷⁰

Johnson’s position contains the main worry of earlier specifists: that teaching for skills is not only useless, it is harmful in that it elevates skills over knowledge, and takes time away from more fruitful education. Siegel responds to Johnson as he did to McPeck, that although the ability to ‘identify unstated assumptions’ will depend on other things, such as knowledge within the area it is applied, it remains the same skill: ‘the execution of the skill [of identifying unstated assumptions] in chemistry, even if dependent on knowledge of chemistry, is not thereby a different skill from that of identifying unstated assumptions in aesthetics.’⁷¹ Siegel concludes by identifying the way in which the critical thinking debate is based upon a confusion:

The key to avoiding [attacks like Johnson’s] is resolutely to refrain from thinking of skills, including thinking skills, in terms of mysterious processes or habitual and mindless routines,

⁷⁰ Stephen Johnson, “Teaching Thinking Skills,” in *Teaching Thinking Skills*, ed. Christopher Winch, 2nd ed. (New York, NY: Continuum International Publishing Group, 2000), 1–50., 2.

⁷¹ Siegel, “On Thinking Skills.”, 74.

and to insist on understanding skilled thinking in terms of quality: that is, as thinking that admits of positive normative evaluation in that it meets relevant criteria.⁷²

A more recent example of the critical thinking debate occurs between Tim Moore advancing a specifist argument and Martin Davies arguing against him. Moore argues:

There would seem to be a danger in conceiving of critical thinking in the essentially positivist terms of [the generalist] approach; that is, by drawing on a number of general critical thinking heuristics, we can arrive at definitive and final judgements about the rightness and wrongness of propositions, about the correctness and incorrectness of solutions, and about the validity of lack thereof of ideas. ... [T]his is a far too restrictive notion of critical thinking practices, one that has the potential to limit the possibility of dialogue and to close down the possibility of other types of knowledge and critique.⁷³

Davies responds in an article with the humorous tagline: *Moore on the critical thinking debate*, using syllogistic logic to both refute Moore's arguments and press his point about the value of teaching the transferable, generalist skill of syllogistic logic.⁷⁴ Briefly, Davies argues that the generalist and specifists divide presented by Moore accounts to a false dilemma, and that there is benefit in both approaches.

A similar debate in the field of virtue ethics (and more recently, virtue epistemology) has been advanced by situationists, who argue that situational factors outside the control of an agent play a more causally-determinative role in behaviour than any enduring character traits. Character, they argue, does not transfer, or does not transfer as much as we think.⁷⁵ In this thesis I show with reference to the situationist critique in virtue epistemology that the ongoing critical thinking debate is ameliorated by being clear about what can, and what cannot 'transfer'. Clearly, the ability to dissect and uncover a mistake in reasoning varies depending on one's knowledge of a field. In this sense, knowledge could be seen as the more causally determinative factor in finding faults. However, virtues, such as open-mindedness, conscientiousness, and wariness are traits that if held in one arena, are likely held in another.

⁷² Ibid., 82-83.

⁷³ Tim J Moore, "The Critical Thinking Debate: How General Are General Thinking Skills?," *Higher Education Research & Development* 23, no. 1 (2004): 3-18., 16-17.

⁷⁴ W. Martin Davies, "An 'infusion' Approach to Critical Thinking: Moore on the Critical Thinking Debate," *Higher Education Research & Development* 25, no. 2 (May 2006): 179-93.

⁷⁵ I address the situationist attack on virtues in section 2.5

The success of a *critical thinking act* may be dependent on non-critical thinking elements, such as expertise in a field; but the success of a *critical thinker* is not determined by whether they are right, but on such things as whether or not they have been careful, or unbiased.

1.7 Hope and virtue

A virtue epistemic approach to critical thinking is timely. Emery Hyslop-Margison, for example, claims that critical thinking would benefit from considering the virtue epistemic literature.⁷⁶ Siegel, too, outlines the similarities between the critical thinking and virtue epistemology projects:

The work of philosophers of education who focus on education's epistemological dimensions, and of virtue theorists in epistemology, overlaps considerably. Among the former, theorists of critical thinking... emphasize the central educational task of the fostering of specific dispositions, habits of mind, and character traits in students, many of which correspond to the fostering of specific epistemic virtues. ... [I urge] virtue epistemologists in particular, and epistemologists more generally, to [turn their attention to epistemological questions concerning education.] The philosophy of education can only benefit from such attention—as, I hope, will epistemology itself.⁷⁷

More recently, Daniel Cohen has proposed the concept of virtue argumentation, whereby arguments are judged as good not simply in traditional terms, such as valid or invalid, but are good if they have 'been conducted virtuously.'⁷⁸ Cohen argues that argumentation may benefit in the same way that epistemology has from virtue theory:

The overall orientation [of a virtue approach to argumentation] is agent-based: a good argument is one that has been conducted virtuously. But what exactly does that mean? It has to take *all* the roles that agents play in argumentation into account. As a result, it will be a *broad*er perspective, capable of bringing disparate parts of the field into a larger whole and re-shaping the disciplinary agenda. I believe this kind of re-orientation can help answer a cluster of outstanding questions for argumentation theorists: *when, with whom, about what*, and, above all, *why* should we argue. And, as a corollary but of no less importance, it can help us answer *when, with whom, about what*, and *why* we should not argue.⁷⁹

⁷⁶ EJ Hyslop-Margison, "The Failure of Critical Thinking: Considering Virtue Epistemology as a Pedagogical Alternative," 2009, 319–26.

⁷⁷ Harvey Siegel, "Is 'Education' a Thick Epistemic Concept?," *Philosophical Papers* 37, no. 3 (2008): 455–69., 462–467.

⁷⁸ Daniel H Cohen, "Virtue Epistemology and Argumentation Theory," *OSSA Conference Archive*, 2007, 1–9., 1.

⁷⁹ *Ibid.*, 1.

Cohen also argues that just as '[c]ognitive virtues are aids on the way to cognitive achievements; critical virtues are aids on the way to achievements in argumentation.'⁸⁰ An extended analysis of the conception of critical thinking and the critical thinking debate that makes use of virtue terminology is offered by Richard Paul, who provides a list of virtues which he considers to be necessary for 'strong sense' critical thinking, the type of critical thinking that is not simply an exercise of skills. Paul has a bleak outlook for any critical thinking project which does not teach his list of intellectual virtues:

There is little to recommend schooling that does not foster what I call intellectual virtues. These virtues include intellectual empathy, intellectual perseverance, intellectual confidence in reason, and an intellectual sense of justice (fairmindedness). Without these characteristics, intellectual development is circumscribed and distorted, a caricature of what it could and should be.⁸¹

More recently, there have been some attempts to conceive components of critical thinking in virtue epistemic terms: for example, Sharon Bailin and Mark Battersby have argued that the critical thinking dispositions are better thought of as the virtues of inquiry.⁸² I compare my accounts with these in chapter 5.

1.7.1 Benefits of a virtue epistemic approach to critical thinking

An immediate advantage of a virtue theoretic approach to critical thinking is that it would make an act of critical thinking derivative of the critical thinker. Guy Axtell identifies that this reversal of analysis is a 'defining methodological feature setting virtue epistemology off from its alternatives.'⁸³ People are critical, thinking is not. This does not follow from a McPeckean complaint that *thinking is always about something*, but because criticality inheres in the *agent* rather than in instances of thought. To describe critical thinking is to describe the activity of

⁸⁰ Daniel H Cohen, "Keeping an Open Mind and Having a Sense of Proportion as Virtues in Argumentation" 1, no. 2 (2009): 49–64., 54.

⁸¹ Richard Paul, "Critical Thinking, Moral Integrity, and Citizenship," in *Knowledge, Belief, and Character: Readings in Virtue Epistemology*, ed. Guy Axtell (Oxford: Rowman & Littlefield, 2000)., 163.

⁸² Bailin and Battersby, "Fostering the Virtues of Inquiry."

⁸³ Guy Axtell, "Introduction," in *Knowledge, Belief, and Character*, ed. Guy Axtell, vol. 5 (Oxford: Rowman & Littlefield, 2000)., xiii.

the critical person. Being proficient at the types of skills taught in informal logic courses, and having certain qualities, such as open-mindedness, are all things that we would expect of a critical thinker, but when we describe the critical thinker we require more than skills and dispositions—we need the skills and dispositions to coordinate with success of a kind that is characteristic of the critical thinker.

A further benefit of a virtue epistemic approach is that it would provide a clear distinction between skills and dispositions. In *act-based* approaches to critical thinking, the critical thinker is constructed from a list of requisite skills and abilities, but, as we saw in Ennis's conception, the distinction between constituent parts is often unclear, as is how each part coordinates with others. Facione states that each skill can be seen to have its attendant dispositions.⁸⁴ Bailin et al. and Robin Barrow decry the use of 'skill talk' altogether.⁸⁵ It would be useful to have a clear distinction between these components, and also a clear account of the concept of a skill. Virtue theory provides this. According to Zagzebski,

A virtue... can be defined as a deep and enduring acquired excellence of a person, involving a characteristic motivation to produce a certain desired end and reliable success in bringing about that end.⁸⁶

Zagzebski describes several ways to distinguish skills from virtues: not all skills are worth having, but all virtues are; vices are the contrary to virtues, but skills have no contrary; and '[a] skill need not be exercised, but a virtue does not exist unless it is exercised on the appropriate occasions.'⁸⁷ Her examples of intellectual skills and virtues can be seen in Table 4.

⁸⁴ Peter A Facione, "The Disposition toward Critical Thinking: Its Character, Measurement, and Relationship to Critical Thinking Skill," *Informal Logic* 20, no. 1 (2000): 61–84.

⁸⁵ See Bailin et al., "Common Misconceptions of Critical Thinking," and Robin Barrow, "Skill Talk," *Journal of Philosophy of Education* 21, no. 2 (December 1987): 187–95.

⁸⁶ Linda Zagzebski, *Virtues of the Mind* (Cambridge: Cambridge University Press, 1996)., 137.

⁸⁷ Ibid., 106. Zagzebski illustrates the distinction by contrasting the skilled hockey player that may choose not to play hockey in situations that call for hockey-playing and the 'just' person who does not act justly in occasions that call for justice. On these grounds, the latter would forfeit their claim to be just, whereas the former would not forfeit their claim to be a skilled hockey player.

Table 4: Zagzebski's distinction between intellectual virtues and skills⁸⁸

Intellectual virtues

- the ability to recognize the salient facts; sensitivity to detail
- open-mindedness in collecting and appraising evidence
- fairness in evaluating the arguments of others
- intellectual humility
- intellectual perseverance, diligence, care, and thoroughness
- adaptability of intellect
- the detective's virtues: thinking of coherent explanations of the facts
- being able to recognize reliable authority
- insight into persons, problems, theories
- the teaching virtues: the social virtues of being communicative, including intellectual candor and knowing your audience and how they respond

Intellectual skills

- verbal skills: skills of speaking and writing
- perceptual acuity skills, e.g., fact-finding skills; these are the skills of the detective or the journalist
- logical skills: skills of performing deductive and inductive reasoning, the ability to think up counterexamples
- explanatory skills, e.g., the ability to think up insightful analogies
- mathematical skills and skills of quantitative reasoning
- spatial reasoning skills, e.g., skills at working puzzles
- mechanical skills, e.g., knowing how to operate and manipulate machines and other physical objects

Much of the debate of the critical thinking literature is over whether it can be taught. The distinction between skills and virtues, therefore, has important educational implications, since both are engendered in different ways.

Virtue epistemology provides a clear distinction between teaching approaches to both skills and virtues. As above, if critical thinking is seen in virtue terms, then it might be resistant to teaching; however, this does not necessarily mean that traditional critical thinking courses are useless, since they would provide lessons in the necessary skills of the critical thinker.

Zagzebski sees this:

What can be taught are skills such as the codified part of logic. Moral skills, such as procedures for grading fairly or processes for aiding famine-ridden countries that will have the desired effect can also be taught. What cannot be taught, or, at least, cannot be taught so easily, are intellectual virtues such as open-mindedness, the ability to think up an explanation for a complex set of data, or the ability to recognize reliable authority... These qualities are no more teachable than generosity or courage.

⁸⁸ Ibid., 114.

A further complication arises in the definition of ‘teaching.’ Zagzebski argues that virtues such as courage and open-mindedness cannot be taught; instead, they are developed or acquired:

They begin with the imitation of virtuous persons, require practice which develops certain habits of feeling and acting, and usually include an in-between stage of intellectual self-control (overcoming intellectual *akrasia*) parallel to the stage of moral self-control in the acquisition of a moral virtue. In both cases the imitation is of a person who has *phronesis*.⁸⁹

Zagzebski therefore offers hope to the teacher of critical thinking who seeks to foster more than skills. Perhaps lessons in the skills of the critical thinker would increase the acquisition of intellectual virtues. Allowing a student to struggle with the fallacy of affirming the consequent, then gesturing towards the problems this poses for experiments or claims of proof of causation might provide the fertile soil for virtues such as carefulness to grow. Perhaps being taught by someone with intellectual virtues would provide opportunities for habituation and modelling. Indeed an account of *phronesis* is what is missing from *act-based* conceptions of critical thinking dispositions. *Phronesis*, or practical wisdom, is necessary to exercise dispositions appropriately. A good critical thinking instructor will illustrate the appropriate conditions under which one should point out the flaws in another’s argument; a poor critical thinking instructor risks turning students into skilful pedants.

1.8 Conclusion

Critical thinking faces a series of impasses in the existing literature. These can be roughly broken down into three related questions: ‘What is critical thinking?’, ‘Can it be taught?’ and ‘Does it transfer?’ In this thesis, I argue that to overcome these impasses, the critical thinking and virtue epistemology literatures should be brought into contact with each other. Virtue epistemology and critical thinking share similar concerns: both are interested in the attributes of good thinkers and both are informed by shared terminologies. Further, important debates within critical thinking have analogues in virtue epistemology: virtue epistemology faces criticism from those who argue that enduring characteristics do not exist, there is question over

⁸⁹ Ibid., 150.

how the virtues interact with each other, whether intellectual virtues can be taught, and what is the best way to teach them. Identifying these similarities affords opportunities for virtue epistemic insights to address concerns in critical thinking. By adopting the *agent-based* approach of virtue epistemology, we may hope to discover the aim or aims of critical thinking and, consequently, its core virtues.

2. Virtue Epistemology

In this chapter I contrast traditional epistemology with virtue epistemology. Virtue epistemology is typically divided into two areas: virtue reliabilism and virtue responsibilism. By using Jason Baehr's taxonomy of the sub-positions within virtue responsibilism, I show that regardless of whether virtue epistemology solves traditional projects in epistemology, non-traditional projects related to epistemology have value. Defining the virtues of the critical thinker is one such project. I accept Baehr's requirement that a virtue is a persisting, admirable character trait, the possession of which adds to one's worth. I contrast two general approaches to the defining an act of virtue: those that require it to achieve its external aims, and those that do not. I argue that a virtuous act must be internally-successful, which I define as an act that exhibits excellence in its inner characteristics and would reliably achieve the external aims of the virtue under normal circumstances. Finally, I respond to recent situationist arguments against the intellectual virtues. I argue that these attacks are based on a misunderstanding of already tenuous findings in social psychology.

2.1 Traditional epistemology

Traditional epistemology is belief-based, in that it seeks to define knowledge in terms of belief. For example, epistemically-relevant terms, such as justification, are sometimes defined in terms of whether they are based on fundamental or irrefutable beliefs, or whether they cohere with other beliefs. Two major schools of thought dominate traditional epistemology: foundationalism and coherentism. In 1980, Ernest Sosa argued in *The Raft and the Pyramid* that both of these approaches encounter fundamental problems that are only soluble by appealing to the virtues. This introduced virtue theory, which had been enjoying success in the field of ethics, to epistemology.¹

¹ Ernest Sosa, "The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge," *Midwest Studies in Philosophy* 5 (1980): 3–25.

For Sosa, the raft is the metaphor for *coherentism*, ‘a free-floating raft every plank of which helps directly or indirectly to keep all the others in place, and no plank of which would retain its status with no help from the others’² and the pyramid provides the metaphor for *foundationalism* ‘every piece of knowledge stands at the apex of a pyramid that rests on stable and secure foundations whose stability and security does not derive from the upper stories and sections.’³ Sosa argues that both accounts are inherently flawed.

Briefly, coherentism is flawed as it is ‘unable to account adequately for the epistemic status of the beliefs at the “periphery” of a body of beliefs.’⁴ As an example, he takes the belief that he has a headache. This belief must cohere with the rest of his beliefs in order to be justified; however, if he changes his belief to be that he does not have a headache, then this could be made to result in an unjustified ‘hypothetical system of beliefs’:⁵

Let everything remain constant, *including* the splitting headache, except for the following: replace the belief that I have a headache with the belief that I do *not* have a headache, the belief that I am in pain with the belief that I am *not* in pain, the belief that someone is in pain with the belief that someone is *not* in pain, and so on. I contend that my resulting hypothetical system of beliefs would cohere as fully as does my actual system of beliefs, and yet my hypothetical belief that I do *not* have a headache would not therefore be justified.⁶

As coherentism derives justification from the coherence of other beliefs, the existence of an unjustified but coherent system of beliefs would show the view to be false.

Foundationalism, according to Sosa, resolves into a dilemma. An extra-terrestrial may have experience *X* of what we call the colour red (that they call *F*), through processes or faculties that are unlike our own. Foundationalism commits us to the idea that the justification of the belief that a chair is red derives from ordinary visual experience; and the justification of the belief that the chair (or alien equivalent) is *F* derives from the experience *X*. The dilemma, according to Sosa:

² Ibid., 24.

³ Ibid., 23-24.

⁴ Ibid., 24.

⁵ Ibid., 19.

⁶ Ibid., 19.

[R]egarding the epistemic principle that underlies our justification for believing that something here is red on the basis of our visual experience of something red, is it proposed as a fundamental principle or a derived generalisation?⁷

The problem posed by this dilemma is described by John Greco and John Turri:

If we say the former [that it is a fundamental principle], then the foundationalist is faced with a seemingly infinite multitude of fundamental principles with no unifying ground. There would be different fundamental principles for visual and auditory experience, for example, as well as possible principles for beings not like us at all, but capable of having their own kind of sensory knowledge. The more attractive alternative is to think of the foundationalist's principles as derived, but then we need an account of some deeper, unifying ground.⁸

This 'deeper, unifying' ground of justification, Sosa suggests, may be found in embodiment of stable virtues. He proposes virtue reliabilism, where 'primary justification would apply to intellectual virtues, to stable dispositions for belief acquisition.'⁹ This approach has justification defined in terms of the agent's possession of intellectual virtues, rather than in terms of epistemically-relevant qualities of the belief.

Greco and Turri describe this as a shift in the 'direction of analysis'.¹⁰ This is a defining quality of virtue epistemology. Virtue theories, as a whole, differ from act-centred theories in that the qualities or attributes of a concept (be it justification or rightness) are derivative of the agent, rather than the act. Zagzebski summarises the strength of the virtue-theoretic direction of analysis:

Persons are ontologically more fundamental than acts; acts are defined in terms of persons. It is reasonable to think, then, that the moral properties of persons are ontologically more fundamental than the moral properties of acts, and the latter properties ought to be defined in terms of the former. Hence, virtues and vices are ontologically more fundamental than the rightness or wrongness of acts. The concept of right act ought to be defined in terms of the concept of virtue.¹¹

Virtue theories define acts in terms of agents. Virtue epistemology, as opposed to belief-based epistemology, takes the epistemic status of persons rather than beliefs to be fundamental.

⁷ Ibid., 21.

⁸ John Greco and John Turri, "Virtue Epistemology," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Winter, 2013, <http://plato.stanford.edu/archives/win2013/entries/epistemology-virtue/>.

⁹ Sosa, "The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge.", 23.

¹⁰ Greco and Turri, "Virtue Epistemology."

¹¹ Zagzebski, *Virtues of the Mind.*, 79-80.

According to Heather Battaly, virtue epistemic theories divide into two types: *theories* and *anti-theories*.¹² A virtue epistemic theory is one that provides ‘a systematic account of the relationships between belief-evaluations, the epistemic good, and intellectual virtues and vices.’¹³ These virtue *theories* seek to answer questions in traditional epistemology. For example, some, such as Zagzebski’s account, claims to solve the Gettier problem.¹⁴ Alternatively, virtue *anti-theories*, according to Battaly, do not seek to solve the problems posed by traditional approaches of epistemology. Battaly divides virtue anti-theories into two types: *virtue-eliminativism* and *virtue-expansionism*. Both of these ‘deny that knowledge and justified belief can be systematically defined in terms of the virtues’ but virtue-eliminativism ‘argues that epistemological projects other than exploration of the virtues should be eliminated: we should abandon discussions of knowledge and justification, and replace them with analyses of the virtues’ whereas virtue-expansionism ‘argues that there is room in epistemology both for analyses of the intellectual virtues and for analyses of knowledge, even though there won’t be systematic connections between these projects.’¹⁵ Greco and Turri have suggested similar divisions termed ‘conventional’ and ‘alternative’.¹⁶ Battaly’s divisions are similar to the taxonomy proposed by Jason Baehr in *The Inquiring Mind*. Baehr, however, only focuses on the responsibilist subvariety of virtue epistemology (I discuss this distinction below). Baehr’s categorisation of the field allows for greater precision: instead of Battaly’s ‘anti-theory’ or Greco and Turri’s ‘alternative’ category, Baehr describes and further divides

¹² Heather Battaly, “Teaching Intellectual Virtues: Applying Virtue Epistemology in the Classroom,” *Teaching Philosophy* 29, no. 3 (2006): 191–222; Heather Battaly, “Virtue Epistemology,” *Philosophy Compass* 3, no. 4 (July 2008): 639–63.

¹³ Battaly, “Teaching Intellectual Virtues: Applying Virtue Epistemology in the Classroom.”, 192–193.

¹⁴ For Zagzebski, knowledge is ‘a state of belief arising out of acts of intellectual virtue.’ All Gettier cases have an agent acquiring true belief through epistemic accident, so none can be said to have knowledge as Zagzebski requires that the agent ‘acquires a true belief... through these features of the act [of intellectual virtue]’. The claim that virtue epistemology solves Gettier problems will be discussed below. Zagzebski, *Virtues of the Mind*. 270, 283–299.

¹⁵ Battaly, “Virtue Epistemology.”, 642–643.

¹⁶ Greco and Turri, “Virtue Epistemology.”

autonomous virtue epistemology, which, rather than being opposed to traditional approaches to epistemology, seeks to either complement them, or concerns itself with non-traditional questions about knowledge and knowers.

Virtue epistemology divides into two main types: *virtue reliabilism* and *virtue responsibilism*. Virtue reliabilism involves the claim that the intellectual virtues are those which, if possessed, are reliable in reaching the truth, for example: good eyesight, a large memory, and so on. Virtue responsibilism involves the claim that the intellectual virtues are epistemically-applicable character traits, such as open-mindedness, and conscientiousness.¹⁷

Although it appears in the literature as though virtue epistemology is divided into two camps, Baehr argues that the distinctions between reliabilism and responsibilism are not as clear as they seem. For example, he paraphrases the virtue reliabilist's claim that 'a personal quality is an intellectual virtue only if it plays a *critical* or *salient* role in getting a person to the truth—only if it best explains why a person reaches the truth.'¹⁸ For Baehr, this conception provides room for the character virtues. For simple knowledge, such as knowledge that I am sitting at a chair in front of a computer monitor, or a consciousness that it is raining, or an awareness that the lights have suddenly gone out, then proper-functioning cognitive faculties indeed play the most important role in the formation of true belief.¹⁹ However, there are obvious cases where the possession of certain character traits provides the best explanation of how an agent came to reach true belief. Baehr offers the following example:

An investigative reporter is researching a story on corporate crime and begins to uncover evidence indicating that some of the perpetrators are executives in the very corporation that owns his newspaper. The reporter believes that he and his readership have a right to know about the crimes, so he persists with the investigation, recognizing that it may cost him his job, and perhaps more. Undaunted even by personal threats, the reporter proceeds with his

¹⁷ Lorraine Code, "Toward a Responsibilist Epistemology," *Philosophy and Phenomenological Research* 45, no. 1 (1984): 29–50.

¹⁸ Jason Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology* (New York: Oxford University Press, 2012), 52.

¹⁹ In fact, this point poses a problem for those, like Zagzebski who claim character virtues are necessary conditions for knowledge. This claim will be examined below.

investigation. After several months of rigorous intellectual labor, he uncovers and exposes the executives' misdeeds.²⁰

For Baehr, courage and autonomy are the reasons the reporter reached the truth, thus character virtues meet the conditions of intellectual virtue set by the virtue reliabilist.²¹

To provide support for his claim that the character virtues can be included in the reliabilist project, Baehr also notes the interesting fact that the vices cited by reliabilists tend not to be cognitive flaws but rather flaws of character. For example, Baehr quotes reliabilists as labelling vices such as hastiness, and wishful- and superstitious-thinking.²² For Baehr, this shows that the reliabilist understands that character flaws can be a detriment to reaching the truth, and that they have not accepted the converse. Baehr concludes that '[r]eliability is not purely a matter of having properly functioning cognitive faculties,' and, due to this, 'a strictly faculty-based reliabilist epistemology is unsuccessful.'²³

It is obvious that faculty virtues vary in reliability based on the environment in which they operate. For example, the faculty of good eyesight is difficult to exercise in situations of low light or long distance; and the faculty of good hearing is difficult to exercise in situations of loud ambient noise (unless, of course, one wants to attend to the loud ambient noise). However, Baehr argues that the reliability of *both* character and cognitive virtues are relative to the environment. Some character virtues, such as open-mindedness, are detrimental in certain cases. However, he identifies a clear distinction between the two, in that 'character virtues often are helpful for reaching the truth in the face of the very sorts of environmental conditions that tend to interfere with the performance of faculty virtues.'²⁴ For Baehr, the character virtues

²⁰ Ibid., 54.

²¹ Ibid., 54.

²² Ibid., 55.

²³ Ibid., 61.

²⁴ Jason Baehr, "Character, Reliability and Virtue Epistemology," *The Philosophical Quarterly* 56, no. 223 (April 2006): 193–212., 209.

... are especially helpful for reaching the truth where the truth is hard to come by. And often what makes the truth hard to come by are precisely those environmental or situational factors that can undermine or interfere with the reliability of faculty virtues: a gap between appearance and reality, dubious interlocutors, incomplete or misleading evidence, and the like. This shows that when compared with faculty virtues, character virtues are reliable with respect to very different sorts of environmental conditions. In fact, the situational relevance of character virtues often picks up precisely where that of many faculty virtues leaves off.²⁵

Although Baehr sees a difference between the character and faculty virtues, the fact that concern for reliability does not end in situations where the latter are exercised shows the reliabilist's project to be flawed—or at the least incomplete. Both reliabilist and responsibilist virtues help us when the truth is difficult to find. For Baehr, they both presuppose each other and are interrelated.²⁶

2.2 Baehr's four variants of responsibilism

Like Battaly, Baehr divides virtue epistemologies into subtypes based on the role they seek to play in the traditional account of epistemology (see Table 5 below).²⁷ However, Baehr restricts his divisions to responsibilist accounts of virtue epistemology. Baehr first divides the approaches into *conservative* and *autonomous*; divisions that roughly equate to Battaly's *theories* and *anti-theories*. For Baehr, *conservative* virtue epistemology claims to be able to utilise the intellectual virtues to answer traditional problems in epistemology. *Conservative* virtue epistemology divides again into two parts, *weak* and *strong* depending on the strength of the role virtue plays in answering these traditional questions. For *strong conservative* virtue epistemology, the role in which it plays in solving traditional problems is fundamental; in *weak conservative* it is secondary.

²⁵ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 64-65.

²⁶ Ibid., 67.

²⁷ Henceforth, as does Baehr, I use 'virtue epistemology' to referring the *responsibilist* variety. Later, when I return to the question of whether critical thinking virtues are reliabilist or responsibilist, I will specify the varieties.

Table 5: Baehr's varieties of character-based virtue epistemology (VE) ²⁸

Conservative VE: the concept of intellectual virtue is useful for addressing one or more problems in traditional epistemology		Autonomous VE: the concept of intellectual virtue can form the basis of an approach to epistemology that is independent of traditional epistemology	
<i>Strong Conservative</i> VE: the concept of intellectual virtue merits a central and fundamental role within traditional epistemology	<i>Weak Conservative</i> VE: the concept of intellectual virtue merits a secondary or background role within traditional epistemology	<i>Weak Autonomous</i> VE: an independent focus on intellectual character and virtues complements traditional epistemology	<i>Strong Autonomous</i> VE: an independent focus on intellectual character and virtues should replace traditional epistemology

The dominant example of a *strong conservative* virtue epistemology is found in the work of Linda Zagzebski. For Zagzebski, '[k]nowledge is a state of cognitive contact with reality arising from acts of intellectual virtue,'²⁹ and this formulation is offered as a solution to many, if not all, of the problems encountered in traditional epistemology. Baehr himself subscribes to *weak conservative* virtue epistemology; *strong conservative* virtue epistemology fails, as 'conditions for knowledge are neither necessary nor sufficient.'³⁰ For Baehr, the virtues play a secondary role in addressing the problems in traditional epistemology, but cannot replace all of them, nor can all of the problems be solved in terms of the virtues.

A brief overview of the debate between strong and weak conservatism can be illustrated by Baehr's claim that virtues are neither necessary nor sufficient for knowledge. From Zagzebski's above formulation, that '[k]nowledge is a state of cognitive contact with reality arising from acts of intellectual virtue,' she hopes to solve the Gettier problem. Zagzebski claims that Gettier cases all have a similar pattern, a case of good epistemic luck replacing bad epistemic luck, and that Gettier cases are inescapable for all formulations of

²⁸ Ibid., 12.

²⁹ Linda Zagzebski, "Précis of Virtues of the Mind," *Philosophy and Phenomenological Research* 60, no. 1 (2000): 169–77., 176.

³⁰ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 33.

knowledge as true belief *and* justification or warrant, regardless of what form the justification or warrant takes.

If knowledge is true belief + x, it does not matter whether x is identified with justification, reliability, proper function, conscientiousness, intellectual virtue, or something else... the problem arises out of the *relation* between x and the truth in any definition according to which it is possible to have a false belief that is x.³¹

Consider a real Gettier case in which I am driving along a road, conscientiously attending to my speed and surroundings, and see a person wearing a high-visibility vest on the side of the road in the same location in which I have seen many police with radar-guns wearing similar clothing. I form the belief (with increased attention to my speed) that *there is a policeman with a speed gun up ahead*, only to discover with relief that the man in the vest was only a road worker (luck cancelling out the truth of my belief). A little further along still, past the road worker, there actually *is* a policeman with a speed gun (luck reinstating the truth of my belief). Assuming my behaviour or processes in reaching my belief meet the requirements of the multifarious types of justification or warrant, the fact my belief ends up being true means that, on standard formulations of knowledge conditions, I have achieved the sufficient conditions for knowledge without my belief being knowledge. Zagzebski argues that her conception is immune from this (and all) Gettier cases. In Gettier cases ‘the truth is not acquired through virtuous motives or processes. The truth is not obtained *because of* the virtues.’³² If luck is the reason I reached the true belief that *a policeman is up ahead with a speed gun*, then it is not knowledge:

[A]n act of intellectual virtue is justified or epistemically right in a very strong sense. It is virtuously motivated, it leads to a belief that is acquired and sustained the way an intellectually virtuous person might do it, and the good of truth or cognitive contact with reality is successfully achieved by this motivation and process. Intellectual virtues, like such moral virtues as justice or compassion, include an aim that is partially external.³³

³¹ Linda Zagzebski, *On Epistemology* (Belmont, CA: Wadsworth, 2009), 116.

³² Zagzebski, *Virtues of the Mind*, 297.

³³ *Ibid.*, 298.

The ‘success component’ of Zagzebski’s conception of an act of intellectual virtue will be discussed below.

Baehr points out examples where the use of the virtues still leads to knowledge, but luck is involved. He gives the example of a detective investigating arson:

Suppose, then, that person A believes that her careless disposal of cigarette butts is the cause of a wildfire that has begun raging in the hills just behind her house. In a moment of desperation and appalling moral judgment, A decides to plant evidence around her neighbor B’s house and yard indicating that B is responsible for the fire. A detective is then dispatched to ascertain the cause of the blaze. He proceeds to conduct an intellectually virtuous investigation of the case. His work is motivated by a desire for truth and other virtuous ends. His actions are also characteristic of intellectual virtue; he handles all of the evidence with great care, thinks through the relevant possibilities, avoids drawing hasty conclusions, consults a wide range of reliable sources, and so on. Nevertheless, A’s engineering of the evidence is such that the detective is led to conclude that B is responsible for starting the fire. In the typical case, the detective’s belief would be false but justified. In the present case, however, it turns out that unknown to A, B actually did ignite the blaze, and thus that the detective’s belief is true.³⁴

Zagzebski may reply that the detective does not simply believe that *B started the fire*, but that *B started the fire in a particular way* (the way A had framed it to look). This belief is clearly false, but the scenario could be altered such that the B lit the fire in the same way the detective believes through accident and use of the virtues (say, for example, that B had been concealing the very evidence that A, through a stroke of amazing luck, had planted—the detective would have acquired the true belief that B had started the fire in a particular way through application of virtue). In any case, for Baehr, this shows that epistemic virtue can satisfy sufficiency conditions for knowledge on Zagzebski’s formulation without the agent reaching knowledge.

In terms of Zagzebski’s claim that intellectual virtue is *necessary* for knowledge, Baehr cites low-level knowledge, for example the sudden realisation the lights have turned off, or that one has been hit by a thrown sandwich. For Baehr, knowledge of these sorts of things requires no virtue whatsoever.

It fails to offer a genuinely *virtue*-based account of the knowledge in question. This is because in its treatment of low-grade knowledge, the concept of intellectual virtue is not doing any real explanatory work.³⁵

³⁴ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 37.

³⁵ *Ibid.*, 41.

Baehr notes that Zagzebski could reply that virtue is not doing much explanatory work in the case of simple knowledge, because by definition it is simple and does not need to; after all, the virtuous person can be exercising virtues by not overthinking the simple. However, this response would render Zagzebski's formulation the intellectual virtues implausible, as they would apply too easily; one is not virtuous each time one succeeds in not overthinking something. Similarly, one is not being virtuous by failing to exhibit a vice.

Baehr holds that 'any attempt to give the intellectual virtues a central role in an analysis of knowledge seems bound to fail,' but this may be too strong.³⁶ His arguments thus far have shown that it is unlikely that truth gained virtuously will be necessary or sufficient for knowledge; however, the virtues may play a central role in an account of warrant or justification. Nevertheless, what is important for this thesis is that Baehr still finds relevance in the concept of an intellectual virtue to other areas of epistemology.³⁷ He asks 'Why not think that there are or at least may be *other* issues and questions neglected by traditional epistemology an exploration of which would require an appeal to intellectual virtue?'³⁸

In contrast to *conservative* virtue epistemology, Baehr describes *autonomous* virtue epistemology. In autonomous virtue epistemology, appeal to the intellectual virtues can form part of the answer to questions in epistemology that are independent of those typically covered in traditional epistemology.³⁹ Baehr divides *autonomous* virtue epistemology into *weak* and *strong* versions: the *strong* holding that the problems found in traditional epistemology are insoluble; traditional epistemology is fundamentally flawed, and that it is not that virtue epistemology provides new solutions to old problems, but that it should be used to replace the

³⁶ Jason Baehr, "Character in Epistemology," *Philosophical Studies* 128, no. 3 (2006): 479–514., 480.

³⁷ *Ibid.*, 480.

³⁸ *Ibid.*, 496.

³⁹ c.f. Battaly's *anti-theory*: 'One need not construct a systematic theory to be a virtue epistemologist. One can take the intellectual virtues to be the central concepts and properties in epistemology but deny that knowledge and justified belief can be systematically defined in terms of the virtues... For anti-theorists in virtue epistemology, exploring the intellectual virtues is the most important epistemological project, even though it won't yield systematic connections to knowledge or justification.' Battaly, "Virtue Epistemology.", 642.

old problems altogether. An example of a *strong autonomous* virtue epistemologist is Jonathan Kvanvig, who holds that virtue epistemology can only be successful outside the field of traditional epistemology. *Weak autonomous* virtue epistemologists, such as Lorraine Code, on the other hand, are not as ambitious.⁴⁰ For them, the virtues can enrich a different approach to epistemology that is largely independent to the project of traditional epistemology.

Here it is important to note that although the *strong conservative*, *weak conservative* and *strong autonomous* variants of virtue epistemology are incompatible, *weak autonomous* virtue epistemology does not conflict with any of these positions. Both Baehr and Zagzebski (weak and strong conservatives, respectively), both see value in applying the concept of virtue to separate, but related questions regarding the attributes of those involved in inquiry. Even Baehr's weak conservative virtue epistemology has the virtues playing a background role in traditional epistemology, and this role will become apparent either through the development of an account of the nature of the virtues or the way in which they contribute to a good intellectual life.⁴¹ Baehr suggests that there is substantial philosophical work to be done to investigate these areas and lists areas which are ripe for investigation. As the work of this thesis takes place within the bounds of the weak autonomous project of virtue epistemology, whether the virtues provide a full or partial account of knowledge, or whether any attempt is flawed is not of immediate relevance. My interest is rather in how virtues arise and what they are, rather than their relationship to knowledge.

2.3 Non-traditional projects for virtue epistemology

A virtue epistemic approach to critical thinking is possible insofar as the positive claims of Baehr's category of *weak autonomous* virtue epistemology (that there are philosophical

⁴⁰ See Jonathan L Kvanvig, "Virtue Epistemology," in *The Routledge Companion to Epistemology*, ed. Sven Bernecker and Duncan Pritchard (New York: Routledge, 2011), 199–207., and Lorraine Code, *Epistemic Responsibility* (Hanover, N.H.: University Press of New England, 1987).

⁴¹ Baehr, "Character in Epistemology.", 501.

projects in epistemology that are open to the virtues beyond traditional concerns of knowledge and justification) is plausible.

A way in which insights in virtue epistemology can provide benefits outside of the traditional concerns of the nature of knowledge is outlined by Lorraine Code. According to Code, traditional epistemology has inadequately allowed for analysis of cognitive interdependence. It is not that showing justification for one's beliefs is socially irrelevant, or that it is unimportant to show how one's beliefs are coherent or rest on solid foundations; rather, there is more to epistemology than only these and like concerns. As Code observes: 'What is known is just one aspect of a complex process of human interaction with other people and with the world.'⁴² Questions regarding what constitutes justification and knowledge are only part of a rich human intellectual life. A virtue responsibilist approach provides the 'missing complement' to traditional approaches to epistemology.⁴³ Code provides some interesting avenues for further investigation. For example, she suggests that literature can provide rich exemplars of the intellectual life and that the 'mirroring' that literature provides 'sustains human community, both in its ethical and in its epistemic dimensions.'⁴⁴ Examples in literature elucidate situations in which there is a moral aspect to the intellectual virtues in that one can not only be epistemically blameworthy for being ignorant, but morally culpable.

Further to the directions recognised by Code, Baehr identifies five areas of inquiry for non-traditional virtue epistemology and provides an extensive overview of related philosophical questions for each:

1. *Intellectual virtues and other excellences.* How are intellectual character virtues related to other cognitive excellences like intellectual skills, talents, temperaments, and faculties? Is the concept of an intellectual virtue *reducible* to that of (say) an intellectual skill? If not, how exactly do intellectual virtues and skills differ? And how do they depend on each other? Which (if any) intellectual skills must an intellectually virtuous person possess and why? How are intellectual virtues related to *moral* virtues? Are they a subclass of moral virtues? Or are intellectual virtues somehow fundamentally distinct from moral virtues?

⁴² Code, *Epistemic Responsibility*, 254.

⁴³ *Ibid.*, 8.

⁴⁴ *Ibid.*, 223.

2. *The nature of an intellectual virtue.* There is widespread agreement that traits like open-mindedness, fair-mindedness, intellectual carefulness, thoroughness, courage, and tenacity are intellectual virtues. But what exactly *makes* these traits intellectual virtues? Is it something about their epistemic efficacy or reliability? If so, how exactly is this feature to be understood? Or is it rather something about the traits' internal or psychological character considered in its own right? If so, what is this character and why exactly does it make the relevant traits intellectual virtues? Finally, must there be a single right answer to the question of what makes something an intellectual virtue? Or might there [be] multiple viable concepts of intellectual virtue?
3. *The psychological elements and structure of an intellectual virtue.* Which (if any) psychological states or qualities are required for intellectual virtue? Is something like a "love of truth" required? If so, how exactly is this notion to be understood? For instance, should the "love" in question be understood in purely affective terms? Or does it also have [a] *cognitive* dimension? If so, what does this dimension amount to, and how is it related to the other psychological elements of intellectual virtue?
4. *The nature and structure of individual intellectual virtues.* How exactly are we to understand the nature and structure of various *individual* intellectual virtues like open-mindedness, intellectual courage, creativity, or originality? What are the core psychological elements or processes involved with an exercise of these traits? What is it to display these traits at the right time, toward the right person or belief, for the right reason, and so on? What are the unique roles of these traits within the cognitive economy? How are they related to other virtues? Which intellectual vices correspond to these virtues? And how exactly are they related?
5. *Applied virtue epistemology.* Several of the examples and illustrations of intellectual virtue in the preceding chapters suggest that there are fixed and generic domains of human activity (e.g. journalism, law, science, and education) success in which makes substantial and reasonably systematic demands on a person's intellectual character. These demands would appear to be traceable and worth exploring and understanding from a philosophical standpoint. For instance, for any of the relevant domains, we might consider. What exactly is the (intellectual character-relevant) structure of this domain? What sorts of demands does success in this domain make on a person's intellectual character? Which intellectual virtues are relevant to meeting these demands? And how exactly are they relevant? Are there potential *conflicts* between the requirements of intellectual virtue and the requirements for success in this domain? If so, how should they be understood and adjudicated? Because it involves applying the concepts and standards of intellectual virtue to various domains of human activity, this approach is aptly referred to as "applied virtue epistemology."⁴⁵

A large amount of the following section will address the questions posed in Baehr's overview of the non-traditional projects for virtue epistemology. In particular, a clear conception of the difference between skill and virtue (outlined in area #1), casts light into related concerns in the field of critical thinking, as does understanding the nature of a virtue (areas #2 and #4) and its application (area #5).

⁴⁵ Jason Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology* (New York: Oxford University Press, 2011), 200-201.

2.4 Conceptions of intellectual virtue

In this section I compare three major approaches to defining virtue: Rosalind Hursthouse's *naturalistic* account, Linda Zagzebski's *motivational* account, and Jason Baehr's *personal worth* account. I argue that a satisfying account of virtue must account for the internal success of the virtue, and this entails skill. I briefly mention two other accounts of virtue: Robert Adams' *intentional* and Julia Annas' *eudaemonist* accounts.

2.4.1 Hursthouse's naturalistic account of virtue

In *On Virtue Ethics*, Rosalind Hursthouse develops the view that '[a] virtue is a character trait a human being needs for *eudaimonia*, to flourish or live well.'⁴⁶ For Hursthouse, this is a complex idea, comprised of three components:

- (1) The virtues benefit their possessor. (They enable her to flourish, to be, and live a life that is, *eudaimon*.)
- (2) The virtues make their possessor a good human being. (Human beings need the virtues in order to live well, to flourish as human beings, to live a characteristically good, *eudaimon*, human life.)
- (3) The above two features are interrelated.⁴⁷

Hursthouse compares the advice that leading a virtuous life will be beneficial to the counsel provided by a doctor that it is beneficial to regularly exercise, not to smoke, and not to drink alcohol in excess. Following the doctor's orders will not guarantee that one lives a healthy, flourishing life, as a stroke of bad luck can (and does) cut short a the flourishing of an individual who dutifully leads a healthy lifestyle. Furthermore, not following the doctor's orders does not guarantee that one will not thrive. The doctor's orders, therefore, are neither necessary nor sufficient to flourishing, and yet we accept them as a good 'regimen'. For Hursthouse, the counsel to act virtuously is to provide a similar 'regimen', and it provides the same benefit for the possessor as does the advice from the doctor: the advice to act virtuously

⁴⁶ Rosalind Hursthouse, *On Virtue Ethics* (New York: Oxford University Press, 1999), 167.

⁴⁷ *Ibid.*, 167.

does not provide a guarantee, but ‘is to claim that no “regimen” will serve one better—no other candidate “regimen” is remotely plausible.’⁴⁸

Given the medical analogy, the mere fact that some wicked people flourish—for example, some of the Nazis who ran concentration camps and then escaped to South America and lived (and perhaps, in a few cases are still living) the life of Riley, benefited materially by their past wickedness, and happily unwracked by any remorse—should be neither here nor there. Logically, their existence no more impugns the correctness of “The virtues benefit their possessor” than the existence of the few centenarians who have regularly smoked and consumed remarkable quantities of alcohol impugns the correctness of my doctor’s saying, “A regimen of not smoking, moderate alcohol intake, regular exercise, etc. benefits those who follow it.”⁴⁹

For Hursthouse, what *would* undermine either the doctor’s recommendation or the advice that being virtuous is ‘good for you’, is not a few surprising counterexamples, but instead a clear pattern to the contrary. Examples would include the discovery that people who smoke are more likely to live longer than those who do not, or that cowardly people live more fulfilled lives than those who are courageous.

For her second component (the virtues make their possessor a good human being), Hursthouse describes ‘good’ in naturalistic terms. For Hursthouse, (roughly) a *good* plant is one that performs all the expected functions of that type of plant, without any defects to get in the way of proper functioning. Similarly, if a social animal, like a wolf, were to loaf off the kill of the rest of the pack, never engaging in the hunt or even behaving in ways that were counterproductive to the hunt, we would not call it a *good* wolf. Hursthouse says that the same thing can be said for humans. If a human acts in a way that is counter to the proper flourishing of himself or other humans, then he or she should not be called a *good* human. Like Aristotle, Hursthouse identifies that as we are rational and social beings, the proper functioning of a human is tied to our reason and ability to coexist well with others.

A major concern with Hursthouse’s conception is that a virtue is an *excellence*; whereas she is interested in the measurement of ‘good’. We may label trees as *good* examples of their kind, and butterflies and wolves as *good* examples of their respective kinds, but in

⁴⁸ Ibid., 173.

⁴⁹ Ibid., 173-174.

doing so we are describing *typical* representatives of each species. A virtue, by contrast, is not typical; as Spinoza puts it: ‘All things excellent are as difficult as they are rare.’⁵⁰ Grounding the ‘worth’ of a virtue partially in terms of it being the realisation of a species’ nature provides an inadequate interpretation of ‘worth’. Certainly it is better to not be deficient in the attributes that are typical of one’s species, but we do not praise the typical, nor do we talk of this typicality providing ‘worth’ to the species.

For Hursthouse, the naturalistic perspective avoids the dilemma of using purely an objective measure to discover the virtues (and thus not getting far), or simply trying to justify one’s prejudices that certain qualities are virtues. We are able to measure what it means to be human with the same sort of tools we would use to measure other animals, and from this assessment determine if a quality is ‘good’ or if a person is a ‘good’ human. However, an objection to naturalistic reductions is that ‘evil’ behaviour is also typically found in the normal behaviour of species. It is typical for males of many species to rape the females and form groups to murder members of other groups. Humans do have an evolved tendency to cooperate, and are much more social and much more rational (or have the capacity of being rational—and, on sober reflection, the capacity to be extremely irrational) than the lower animals, but identifying ‘rationality’ and ‘socialisation’ as unique features is simply cherry-picking the best species-specific behaviours out of a list that includes many horrible species-specific behaviours. Electing certain good behaviours as examples and then saying that people are good on the basis of their adherence to these good behaviours is inescapably circular.

2.4.2 Zagzebski’s motivational account of virtue

In *Virtues of the Mind*, Zagzebski describes a virtue as ‘a deep and enduring acquired excellence of a person, involving a characteristic motivation to produce a certain desired end and reliable success in bringing about that end’⁵¹ The ends in question, according to Zagzebski,

⁵⁰ Spinoza, “Ethics,” in *Spinoza: Complete Works*, ed. Michael L Morgan, trans. Samuel Shirley (Indianapolis: Hackett Publishing Company, Inc., 2002), 382.

⁵¹ Zagzebski, *Virtues of the Mind*, 137.

are distantly the good, and proximately the aims of each of the particular virtues. Zagzebski identifies between three ways in which a virtue could be connected with the good:

[W]hen we call a virtue good, we may mean that it makes a person good, or we may mean it is good *for* its possessor. In the former sense of good, a virtue is *admirable* in its possessor; in the latter sense, it is *desirable*. These senses of good are not equivalent, as can be seen from the fact that wealth is good in the latter sense but not the former, and although benevolence is good in the former sense, it is at least open to question whether it is good in the latter sense. Second, we may ask whether a virtue is also connected with good as a property of something other than the agent, such as the good of the world as a whole.⁵²

Zagzebski argues that virtues are always good for the possessor even if they make their possessor worse overall. For example, she describes the courageous Nazi, who is likely to do more harm than a Nazi without the virtue of courage. Typical responses to this situation involve stating that a courageous Nazi is not a candidate for courage at all—or we may call his behaviour an example of courage, but not *virtuous* courage. Zagzebski argues that these responses are wrong; that virtues ‘are always good to have, but the good-making properties of virtues and the bad-making properties of vices do not always add up arithmetically to yield a rating of the agent’s overall goodness.’⁵³ The courageous Nazi ‘is closer to becoming a person with a high level of moral worth than he would be if he lacked the virtue, and this is the case even when the virtue makes him morally worse.’⁵⁴

I would therefore elucidate the sense in which virtue makes its possessor good as follows: Anyone who has it is closer to reaching a high level of excellence than one who lacks it, other things being equal, and it usually results in an actual increase in a person’s overall moral worth. The possession of a virtue does not necessarily lead to an increase in the quantity of right acts, because there are certain combinations of a virtue and a vice that tend to produce more wrongful acts than would be produced by the vice alone. This should lead us to be wary of any attempt to postulate a strict correspondence between the possession of virtue and the performance of right acts, but this is not to deny that virtue is the more fundamental concept.⁵⁵

Zagzebski points out, in her support of this claim, the existence of situations in which those with powerful admirable qualities that are being ‘misused’ undergo a rapid transformation

⁵² Ibid., 89-90.

⁵³ Ibid., 92.

⁵⁴ Ibid., 96.

⁵⁵ Ibid., 96.

when they acquire the missing virtue (or reverse the vice) to become pinnacles of virtue—the Damascene moments popular in fiction, in which a villain becomes a hero.⁵⁶

2.4.3 Baehr's personal worth account of the virtues

In *The Inquiring Mind*, Baehr defines the intellectual virtues as those character traits that contribute to the 'personal intellectual worth' of their possessor.⁵⁷ Baehr explains that we already widely use the concept of *personal worth* (personal intellectual worth *sans* intellectual) in normal descriptions of others as being good or bad. By providing the example of how we describe Mother Teresa as good, even if she was a bad cook, shows that the descriptive use of 'good' is 'an inherently moral notion'.⁵⁸ Baehr, suggests the existence of a spectrum: on one end are admirable faculties that do not make us good by having them (these are intellectual, but impersonal—eyesight, good hearing, for example), and admirable character traits that add to our personal worth by making us *morally* good (these are non-intellectual, but personal). It is at the confluence of these attributes that Baehr situates the qualities that confer personal intellectual worth, and thus the intellectual virtues. Here exist the qualities, such as intellectual perseverance and open-mindedness, which contribute to the personal intellectual worth of their owner.

Like Zagzebski, the emotion of admiration plays an integral role in this demarcation: 'The best way to come at [the intellectual dimension of personal worth] is by way of some observations about our practices of intellectual admiration.'⁵⁹ Intellectual admiration, Baehr points out, is present when we admire those who have good eyesight or memory—intellectual traits that he states have no influence on the personal worth of their owners. On the other side, there are character traits that increase the worth of their bearers but are not intellectual, such

⁵⁶ tvtropes.org refers to this use of this device in fiction as a 'Heel-faced turn' and cites examples such as Pussy Galore in the James Bond film *Goldfinger*, (<http://tvtropes.org/pmwiki/pmwiki.php/Main/HeelFaceTurn>)

⁵⁷ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 91.

⁵⁸ Ibid., 92.

⁵⁹ Ibid., 93.

as courage, compassion, and so on. It is those character traits that exist in the middle of these, those that are at once admirable, worth-giving, and intellectual, where the intellectual virtues lie. As an example of a trait of this kind, Baehr suggests willingness to consider alternative viewpoints to one's own. For Baehr, a person who has this trait

... surely is admirable, and admirable in a way that is relevant to his excellence or worth qua person. Intuitively, he is a better person on account of the qualities just noted. At the same time, however, he is not necessarily a *morally* better person; rather he is better in a way that is at once personal *and* intellectual... This suggests the existence of an independent sphere of value that lies between the sort of value instantiated by the person with exceptional vision and a high IQ, on the one hand, and the value instantiated by the moral exemplars...⁶⁰

Baehr formalises his basis of *personal worth* as:

(BPW) A subject S is good or better qua person to the extent that S is positively oriented toward or “loves” what is good and is negatively oriented toward or “hates” what is bad.⁶¹

He offers his conception of *intellectual worth* as follows:

(BIW) A subject S is intellectually good or better qua person to the extent that S is positively oriented toward or “loves” what is intellectually good and is negatively oriented toward or “hates” what is intellectually bad.⁶²

For Baehr, the intellectual virtues have an ‘integrated, two-tier structure’: the motivation towards (or ‘loving of’) intellectual goods and also, a ‘characteristic psychology’—a component he takes from Zagzebski to resolve each virtue into its own distinct variety.⁶³ In sum, according to Baehr, ‘an intellectual virtue is a character trait that contributes to its possessor’s personal intellectual worth on account of its involving a positive psychological orientation towards epistemic goods.’⁶⁴

⁶⁰ Ibid., 93

⁶¹ Ibid., 97

⁶² Ibid., 101

⁶³ Ibid., 103. Whereas Zagzebski differentiates the virtues by distinctive motivations:

The motivational component is distinctive of the particular virtue, but a complete taxonomy of the virtues will probably reveal that the immediate ends of the particular virtues are not ultimate, but that several virtues have the same ultimate end. Zagzebski, “Précis of Virtues of the Mind.”, 172.

⁶⁴ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 102.

Baehr is careful to be clear that ‘worth’ in his personal worth conception is not to be defined *causally*, that is, by the consequences of one’s actions.⁶⁵ This is because *success* is too dependent on external factors for it to be a requirement of *personal worth*; in many cases success is dependent on the cooperation of the environment, and in many cases an external catastrophe may disrupt a virtuously-motivated agent on her way to bringing about positive consequences. Baehr’s account of the intellectual virtues can be seen as a purely motivational one. This is in contrast to ‘mixed’ motivational accounts, for example the account offered by Zagzebski, in which motivation and success are both necessary components.

However, I contend that Baehr’s aversion to a success component of virtue misses the point that success can be defined in two ways; first, *internally*, so that an agent must both be motivated by and relatively-successful in the exercise of virtue; second, *externally*, so that an agent must both be motivated by virtue and be relatively-successful in bringing about the ends of the virtue.

2.4.4 Internal vs. external successes of virtue

There are two main ways in which the relationship between virtue and success has been described: theories which hold that intention or motivation is the only important component, and success is independent (for example, those offered by Michael Slote and Jason Baehr); and theories which claim that success is a necessary component of virtue (such as those offered by Linda Zagzebski and Christine Swanton).⁶⁶ My contention is that both approaches conflate or equivocate between different types of success, or combine it with motivation in a way that is unclear. I argue success can be viewed as either internal or external. Internal success requires excellent action, external success requires achieving the aim of one’s excellent action. The account is similar to Robert Adams’ ‘excellence-based’ account. I argue that for an act to be

⁶⁵ Ibid., 97.

⁶⁶ See Michael Slote, “Agent-Based Virtue Ethics,” in *Virtue Ethics*, ed. Roger Crisp and Michael Slote (Oxford: Oxford University Press, 1997), 239–62., and Christine Swanton, “A Virtue Ethical Account of Right Action,” *Ethics* 112, no. 1 (2001): 32–52.

virtuous, motivation alone is insufficient, but external success is unnecessary; rather that for an act to be virtuous, it must be *successfully for the good*—I refer to this as being internally successful.

To illustrate the differences between motivation, internal success and external success, I will refer to the following scenario. Consider:

Andrew, Ben, and Craig are all intensely motivated by a love of intellectual goods. All three are placed in a Town-Hall meeting in which a charismatic but deceitful politician is doing significant harm to intellectual goods. Unfortunately, the crowd is of a like nature to the politician, and not only are loudly agreeing with everything he says, but also appears to be hostile towards any view to the contrary. An opportunity arises to stand and speak on behalf of the intellectual good, and all can see that doing so will win over some of the crowd to a reasonable position.

Andrew stands, but is crippled by social anxiety and starts to stutter. The crowd responds with jeering, and he retakes his seat, conscious of the fact that their jeering will only increase his anxiety. **Ben** then stands and speaks out, employing all relevant virtues in an attempt to persuade the town hall meeting to his case. He is honest, reasonable and not manipulative; he uses all of the argumentative virtues, there are no gaping holes in his evidence or errors in his reasoning; and he gives good replies to each of their objections. Unfortunately, all other members (besides Andrew and Craig, who are not candidates for persuasion, as they both already agree) remain dogmatically unpersuaded. Finally, **Craig** stands, and through use of lies and threats, manages to persuade some of the crowd to his point of view.

When **Andrew** goes home, he is disgusted with his public speaking failure, but due to his intense motivation of intellectual goods, he attempts to make amends by posting his view on online forums. Furthermore, he takes steps to treat and reduce his social anxiety; he enrolls a course in public speaking, visits a psychologist to help him overcome his fear, and in the interim, vows to practice oratory with pebbles in his mouth.

Those who define virtue in terms of external success will have a different view as to which of the three men in the above example has acted virtuously from those who define virtue in terms of motivation. I will argue that both approaches are incorrect.

For Zagzebski, successful action is embedded in her account of intellectual virtuous trait:

It is clear that virtuous persons acting out of virtue have certain aims, and we generally think that it is not sufficient to merely have the aims in order to be virtuous, but that a virtuous person reliably produces the ends of the virtue in question. So compassionate persons are reliably successful in alleviating suffering; fair persons are reliably successful in producing fair states of affairs; generous persons are reliably successful in giving to those who are in need, and so on... [I]t does seem to me to be a plain fact about the way we ordinarily think of virtue that a virtuous person is someone who not only has a good heart but is successful in making the world the sort of place people with a good heart want it to be. The concept of a virtue, then, combines

our commonsense moral interest in good motivations with our commonsense moral interest in moral success. So “virtue,” I will say, is a success term.⁶⁷

Baehr disagrees with this ‘success’ requirement (as he does with Julia Driver’s consequentialist account of virtue) on the grounds that actually achieving a goal often requires a conspiracy of forces outside one’s control.⁶⁸ Robert Adams similarly identifies the problems with requiring external success:

It is significant that we are often more confident in judging that a trait is or is not virtuous than in our judgment as to whether its consequences will be beneficial. In practice we seem ready to suppose that virtue is surer than its benefits. This is naturally explained if what we regard as decisive for virtue is not the value of a trait's consequences but its intrinsic excellence and whether its aim is toward something good. The point is important for the usefulness of the concept of virtue in evaluating character. For the well-known difficulty facing consequentialisms, that it is often difficult or impossible to determine the actual or expectable consequences, applies to traits as much as to actions.⁶⁹

Baehr and Adams are right to deny the requirement of *external* success in Zagzebski’s account; however, it is not that she conflates success with motivation, but rather that she conflates the *two accounts of success*. This is illustrated in the following quotation (bold added), where it is possible that the type of success to which Zagzebski is referring is *internal* rather than *external*:

The motivation to gain knowledge of a certain sort and to act in a certain way does not reliably lead to success, although it reliably leads the agent to do as much as is in her power to be successful. The connection between motivation and success may differ from virtue to virtue. For example, the motivation to be persevering may reliably lead to acting with perseverance; the motivation to treat others fairly (in argument or in other areas) may reliably lead to acting fairly. If so, some virtues already have a weak reliability component built into the nature of the virtue that is entailed by the motivational component alone. But it is doubtful that this is true of all virtues. It is not too difficult for a woman with a dependent personality to be motivated to become autonomous, but it is much harder for her to be autonomous. The motivations to integrity, open-mindedness, courage, compassion, and generosity are probably far more common than their successful achievement, and the same can be said in varying degrees of most other virtues. I conclude that the “success” feature of virtue is a component distinct from the motivation component. **Virtue possession requires reliable success in attaining the ends of the motivational component of the virtue. This means that the agent must be reasonably successful in the skills and cognitive activities associated with the application of the virtue in her circumstances.**⁷⁰

⁶⁷ Zagzebski, *Virtues of the Mind*., 99-100.

⁶⁸ See Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 124-127.

Julia Driver, “Moral and Epistemic Virtue,” in *Knowledge, Belief, and Character*, ed. Guy Axtell (Oxford: Rowman & Littlefield, 2000).

⁶⁹ Robert Merrihew Adams, *A Theory of Virtue: Excellence in Being for the Good* (Oxford University Press, 2006)., 60.

⁷⁰ Zagzebski, *Virtues of the Mind*., 133-134 (emphasis added).

What is unclear is how near the ‘ends of the motivational component of the virtue’ are. If they are distant, such as in reaching the good, or flourishing, or a net epistemic improvement in one’s environment, then this is external success. If the success is rather in successfully doing those things that are characteristic of the virtue in question, then it is internal. Zagzebski’s formalisation clarifies that she requires both:

An act is an *act of virtue A* just in case it arises from the motivational component of A, is something a person with virtue A would characteristically do in the circumstances, and is successful in bringing about the end of virtue A because of these features of the act.⁷¹

For Zagzebski, virtuous traits and virtuous acts require external success. I think this requirement is too strong, and that instead what we find admirable is not the external success, but, as she puts it, whether an agent has been ‘successful in the skills and cognitive activities associated with the application of the virtue.’

Zagzebski’s external-success requirement is echoed by Christine Swanton in her target-centred account of virtue. According to Swanton,

To understand the idea of hitting the target of a virtue, recall our basic definition of a virtue.
(V₁) A virtue is a good quality or excellence of character. It is a disposition of acknowledging or responding to items in the field of a virtue in an excellent (or good enough) way.
We can now present schematic definitions of an *act from virtue* and a *virtuous act* in the light of (V₁). First, a definition of action from virtue:
(V₂) An action from virtue is an action which displays, expresses, or exhibits all (or a sufficient number of) the excellences comprising virtue in sense (V₁) to a sufficient degree.
In the light of (V₁) also, we can understand what it is to hit the target of a virtue.
(V₃) Hitting the target of a virtue is a form (or forms) of success in the moral acknowledgement of or responsiveness to items in its field or fields, appropriate to the aim of the virtue in a given context.
A *virtuous act* can now be defined.
(V₄) An act is virtuous (in respect V) if and only if it hits the target of V.⁷²

In Swanton’s view, Ben from the Town Hall fails to be virtuous in respect to persuasion, as he fails to hit the target of persuasiveness, which is persuading others to accept his view. By Swanton’s assessment, Craig would also fail to have the virtues of persuasion, since although he succeeds in the aim, he does not achieve it excellently. To further clarify, external success

⁷¹ Zagzebski, “Précis of Virtues of the Mind.”, 174.

⁷² Christine Swanton, *Virtue Ethics: A Pluralistic View* (New York: Oxford University Press, 2003)., 222-223.

is where the agent achieves the goal she sets out to achieve, be it bringing into effect positive maximum pleasure, or contributing to flourishing, and so on. If Craig's speaking out, though persuasive to some people, also had the unforeseeable consequence of galvanising other members of the audience to burn down a library, then this may not meet the requirements of being *externally* successful, if the requirements are that the act ultimately adds to a net epistemic good. Furthermore, if Andrew's stuttering inspired other silent-dissenting members of the audience to actively join the fray, and that their joining has a greater positive effect for intellectual goods than if Andrew had spoken well, we still would not return to Andrew and dub his act as an act of virtuous persuasiveness, despite the fact his act would now have *both* admirable motivations and external success. It is clear that such an account of virtue requiring external success is inappropriate. Therefore, I disagree with what would be Swanton's and Zagzebski's assessment of Ben; I contend Ben is worthy of admiration, although he does not achieve the external success of persuasion.

It is not clear to what extent Baehr or Adams, as those who advance motivational accounts, require motivation to lead to action. According to Baehr, what differentiates the virtues is that each has its own 'characteristic psychology'. However, although 'characteristic psychology' is useful for differentiating types of virtue where a motivation may not succeed (open-mindedness and carefulness both may have the same motivation of reaching the truth), it is not immediately clear whether the requirement of a 'characteristic psychology' helps us to differentiate acts that are virtuous from those that are non-virtuous. Andrew, Ben, and Craig are all motivated by a deep desire to persuade others of the deceit of the politician. All are *motivated* to persuade, all understand the importance of doing so, but Andrew fails to go through with the actions typical of the virtue of persuasion. If people with social anxiety are not the usual candidates for acts persuasiveness in social situations, it is because they fail to reliably succeed in acting in accordance with the virtue. The slipperiness of the term 'characteristic psychology' here is similar to the slipperiness of 'motivation', in that it can be taken to as desiderative, or a force that impels one to act in a particular way that distinguishes

the trait from other traits. Baehr contends that it is understandable to consider that an orientation towards a good must be of certain strength to be motivating; a weak orientation to intellectual goods may not actually lead to motivation, so it seems reasonable to expect that there is some sort of minimum threshold of orientation that needs to be reached in order to be motivating enough to contribute to personal worth. However, for Baehr,

... in fact this requirement is too strong. For there are various ways in which even desires that do contribute to personal worth might fail to be motivating—as where, for instance, there is some countervailing value at stake or where one is prevented by external forces from acting on the relevant desire... [Instead,] the orientation appealed to in [the basis of personal worth] should be understood as being reasonably strong or intense, so that, when considered in its own right it will likely (though not necessarily) prove motivating.⁷³

Baehr here introduces a requirement that the orientation should be of a sufficient strength to prove motivating, all things held equally. Unfortunately it is unclear whether, how strongly, or in which ways motivation links with *action*.

For Adams, (moral) virtue ‘is intrinsic excellence of persisting moral character, and excellence of moral character must be excellence in being for what is good.’⁷⁴ Adams compares two approaches to theories of virtues ‘either in terms of its *instrumental* value for promoting human well-being or in terms of its *intrinsic* excellence.’⁷⁵ Adams’ approach is of the latter variety. He summarises what he means by ‘being for’ something:

There are many ways of being for something. They include: loving it, liking it, respecting it, wanting it, wishing for it, appreciating it, thinking highly of it, speaking in favor of it and otherwise intentionally standing for it symbolically, acting to promote or protect it, and being disposed to do such things.⁷⁶

Adams, like Baehr, does not require the motivation to be necessarily tied to action in every instance, he claims that being for X does not mean ‘doing or being something that merely happens to be *causally conducive* to X.’⁷⁷ However, rather than Baehr’s ‘psychological

⁷³ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 98-99.

⁷⁴ Adams, *A Theory of Virtue: Excellence in Being for the Good.*, 14.

⁷⁵ Ibid., 14-15.

⁷⁶ Ibid., 15-16.

⁷⁷ Ibid., 16.

component', Adams presents a clearer and stronger link between intention and action, in that *being for* something must 'engage the will':

The main qualification this point requires is that *being for x* must involve dispositions to favor *x* in action, desire, emotion, or feeling. In that broad sense it must engage *the will*. Thinking Smith is the best candidate is normally a way of being for her—but not if you really care not at all about Smith and not at all about the election, and are not disposed to do anything about it. Largely cognitive states, such as believings, assents, and views, can be ways of being for something, but only if they engage the will in the indicated way.⁷⁸

Adams' 'engaging of the will' and his 'acting to promote or protect' the good provides a clearer link to action than Baehr's probabilistic account. The fact that, for Adams, the will requires being engaged 'in the indicated way' suggests that it makes no sense to say someone is *for* open-mindedness if he consistently fails to act in an open-minded way. I could be motivated towards open-mindedness, but in moments of crisis, fall back on my prejudices and fail to recognise that I consistently give favourable treatment to beliefs that are my own. I have failed to achieve the internal success of open-mindedness.

Adams recognises that there is a value in the excellent action that is independent of external success and he hints that there is a value beyond motivation. Virtue is being *excellently for the good*, and that *being for* means reliably acting for. He identifies that we admire trying, and the excellence in trying is independent to the achievement:

To evaluate a person's qualities as constituting virtue or virtues is to evaluate them as excellent in themselves.... The voluntary actions through which one worked to become virtuous, and the process of moral improvement of which they were part, may also be excellent in themselves. We may admire someone who strives unsuccessfully for moral improvement in certain respects, inasmuch as the excellence of the efforts is independent, to some extent, of the success of the improvement project.⁷⁹

If we take Adams *striving* as being towards an external good (in his example, moral improvement), and that this involves the internal success of relevant virtues, such as self-awareness, then one can be admirable for having these virtues even if one fails to be externally successful. Adams states that 'It is too well-established and plausible a truism that virtue and

⁷⁸ Ibid., 17.

⁷⁹ Ibid., 164.

success can lead in very different directions in particular situations.⁸⁰ Although there is no requirement for a virtue to be successful in achieving external success, we can expect that its possession will usually lead to external success:

And the excellence of virtue typically includes traits such as courage, temperance, and practical wisdom, which are apt to insure that the virtuous will be disciplined and judicious in their efforts to do good. Merely human excellences cannot absolutely guarantee the success of such efforts. But these considerations do support the expectation that virtuous people will generally try to do good and will generally tend to be reasonably successful in doing good (relative to what their circumstances make possible).⁸¹

In Adams' view, though in practice we do see a link between virtue and external success, this is not a necessary link—it makes complete sense to say that one has the virtue of persuasion if one never convinces anybody. If Ben from our above example never manages to persuade anybody of anything important because he lives within a religious community where people refuse to take his views seriously, we would not say that he lacks the virtue of persuasiveness because he fails to reach its ends. Julia Annas offers a convincing example to distinguish between the value of virtue succeeding *in itself* and the value of *external success*:

The brave person values his brave activity for its own sake, and does not regret it even if it failed to achieve the objective. Virtuous activity may well be valued instrumentally for what it enables the person to do, but if it is virtuous it is also valued for itself⁸²

Annas also notes that we find admirable the actions of others independent of their 'worldly success':

Virtues are dispositions which are not only admirable but which we find *inspiring* and take as *ideals* to aspire to, precisely because of the commitment to goodness which they embody. I take it that this is a point which can be appreciated at an everyday level. We encourage children in schools, by means of posters, lessons, and books, to admire and aspire to be like some people and not others, and these are people whose *characters* are admirable and inspiring because of their commitment to goodness, regardless of whether in worldly terms they succeeded or failed, or were useful and/or agreeable to themselves or to other people. That is why it would be grotesque to have posters in elementary schools depicting Donald Trump as a hero for the young, rather than people like King, Gandhi, and Mandela.⁸³

⁸⁰ Ibid., 55.

⁸¹ Ibid., 54.

⁸² Julia Annas, *Intelligent Virtue* (Oxford University Press, 2011), 75.

⁸³ Ibid., 109.

We admire those who are successful in their ‘commitment to goodness’, and that this sort of success has a bearing on character, rather than the external success, which is not admirable or character-making in the same way.

Returning to our Town Hall example, we have seen that requiring an external success component is unfair, as it would mean Ben fails to be virtuously persuasive simply because of bad luck. However, it is clear that virtues need something more than motivation. If motivation was enough, then Andrew would be virtuous. The difference between Ben and the others is not motivational—rather, it is due to the fact that neither Andrew nor Craig are internally-successful in exercising the virtue of persuasion. I argue that a virtuous act is one that achieves internal success, and this requires one to *succeed in being for the good*; one must succeed in being *for the good*, in the way that Adams describes, but also and act in a way that would reliably achieve the external aims of the virtue in ordinary circumstances. In other words, to be internally successful one must both *be* for the good and *act* for the good. This addition makes the link between motivation and action more explicit than Adams and Baehr’s accounts; it refines Baehr’s reliability component and makes it a requirement of virtue, and describes two ways in which one can be *for the good*—one can honour the good in intention and in action. Whether each person from the Town Hall example meets each requirement can be seen in the Table 6:

Table 6: Distinctions in virtuous acts from the Town Hall example

	Internal Success		External success	Virtuous Act
	Being <i>for the good</i> (intention)	Reliable action		
Andrew	Yes	No	No	No
Ben	Yes	Yes	No	Yes
Craig	No	Unclear	Yes	No

Rather than defining virtuous motivation as the type of motivation that usually leads to action or that is motivating in a certain way, I argue that one must act for the good in order to act virtuously; one must act in a way that would reliably achieve the external goals of the virtue under normal conditions. To describe this in terms of the Town Hall example, although

we could argue that Andrew has intentions towards the good, in that his behaviour shows he is motivated to achieve its aims, he does not act in a way that would be reliably persuasive in ordinary circumstances—speaking with nerves or a stutter is not normally persuasive. Although he might persuade every now and then in abnormal situations, say in cases where people were on the cusp of changing their mind and needed simply a show of opposition to do so—this would not be due to his persuasiveness, but due to his gesture of dissent. Ben acts for the good in the two requisite respects; he honours the good in that he shares the same intention towards the good as does Andrew, but he acts in a way that would reliably achieve its external aims—if his speech was to a more reasonable audience, it would have persuaded them. Craig, by using chicanery and falsehoods to achieve the external success, disqualifies himself for being for the good. He is not ‘standing for it symbolically’ in a way that is ‘worthy to be honoured, loved, admired... for its own sake.’⁸⁴ His behaviour might be a reliable way to achieve the external aim of persuasion, as would brainwashing and hypnosis, but as it is not *excellent*, and we do not call it virtuously persuasive.

It appears as though Baehr should accept the requirement of internal success since he is committed to a personal worth conception of virtue. Worth is not dependent on accidental success or failure; we do not typically withdraw attributions of worth to those who try for good reasons, succeed in acting virtuously, but fail at achieving their intended goal. However, having the right motivation and acting reliably confers far more personal worth than merely having the motivation and failing to act, or acting unreliably. If we are to use ‘intellectual admiration’,⁸⁵ as Baehr suggests, as a measure of personal intellectual worth, then surely having the right motivations *and* acting in the right way is more admirable than simply having the right motivations. The courageous soldier does not have to win the battle, he does not even have to make a difference in the outcome of the battle; if he jumps on a grenade to save the lives of multiple friends by sacrificing his own, but unbeknownst to him, everyone had cleared

⁸⁴ Adams, *A Theory of Virtue: Excellence in Being for the Good.*, 24.

⁸⁵ Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*, 2012., 92.

out of the range of the explosion, this is still an act of courage. In a list of heroes, Martin Luther King is not simply admired for his motivations; he is admired for his exemplary acts of intellectual courage and integrity; furthermore, we admire his *persuasiveness*, and this is a function of both intention and skilled-action.

For the purposes of this thesis, I accept a personal worth account of virtue that subtracts the *external* success from Zagzebski and Swanton's account and adds (or makes explicit) the requirement of *internal* success to Baehr and Adams' motivational account. There is value in honouring the good, value in acting in accordance with the motivation, and value in the epistemic goods that this act intends to obtain. However only the former two add to personal worth, and actions need to be added to intention. Someone who is resistant to wishful thinking is somebody who is not only motivated towards lucidity and un-sentimentality in her self-reflections, it is somebody who has the requisite skills to resist wishful thinking—she is successful at least to a degree, in avoiding wishful thinking. We can imagine someone who satisfies Baehr's conditions: a person who is orientated towards intellectual goods, concerned for the good, conscientious about the good, but fails at actually avoiding wishful thinking every time she sets out to do so. Indeed, there are a multitude of cognitive traps that make avoiding wishful thinking extremely difficult. The concern about an external success component in an account of virtuous action is that it looks too consequentialist and thus too dependent of happenstance outside of the control of the agent. This overvalues the importance of external success and undervalues the importance of simply being internally successful at exercising the virtue.

2.5 The situationist attack against virtue epistemology

Recently, situationists have extended their criticism of virtue ethics to both reliabilist and responsibilist varieties of virtue epistemology. Lauren Olin and John Doris argue that the account of intellectual virtue offered by reliabilism is not empirically supported, as studies in social psychology show that cognitive function is highly dependent on (or influenced by)

context. Mark Alfano argues that responsibilism is untenable, as it depends on the existence of stable character-traits which are also empirically unsupported by studies in social psychology. As they deny the existence (or at least the importance) of enduring characteristics, and these are necessary components of a conception of critical thinking from a virtue theoretic perspective, it is important to consider the situationist critique.

Claims from virtue ethics have been subject to a challenge from philosophical situationism which states that virtue ethics commits us to empirical claims regarding the existence of robust character traits, but experiments in social psychology show robust traits do not exist. As evidence, situationists cite studies such as those showing how people are more generous when in a room that has been recently cleaned with citrus-scented Windex. Since the virtue of generosity is so easily influenced by morally-irrelevant external situations, situationists argue, these have better explanatory power when it comes to understanding action than do any robust trait of generosity. Recently, two papers argued that the same attacks can be levelled at virtue epistemology. In the first of these papers, Mark Alfano argues that the major tenet of *strong conservative* responsibilism (that virtues are necessary for knowledge) is untenable, since studies in social psychology show that knowledge can be had through non-virtuous means. This concern is not new—as discussed above, *weak conservative* virtue responsibilists have either rejected the necessary condition of virtues for knowledge, or described solutions to the problems it poses for low-level, sensory knowledge. Alfano’s argument for epistemic situationism (which I consider alongside that of Olin and Doris) is that epistemically-relevant faculties or traits are highly susceptible to external forces, so cannot be virtues. This attack can be repelled by re-envisioning the intellectual virtues as *ideals* (thus resistant to statements that not many people have them).

Alfano offers his challenge against virtue responsibilism as an inconsistent triad, three propositions of which at most only two can be true:

(non-skepticism)	Most people know quite a bit.
(classical responsibilism)	Knowledge is true belief acquired and retained through responsibilist intellectual virtue.

(epistemic situationism) Most people's conative intellectual traits are not virtues because they are highly sensitive to seemingly trivial and epistemically irrelevant situational influences.⁸⁶

Since he believes that most would be unwilling to part with the first of these three propositions (non-skepticism), he focuses the rest of his paper explaining why we should reject classic responsibilism in favour of epistemic situationism. He cites empirical challenges from several studies in social psychology to support this thesis.

The first study Alfano draws our attention to has implications for the virtue of creativity. Creativity, according to Alfano, is measured by performance on the Duncker candle task. If people are given a box of matches, some thumb-tacks, and told to stick the candle to a wall, they usually fail (only 13% of participants were successful in the study he quotes). The 1987 study showed, however, if one improves people's mood by showing them a pleasant short film or by giving them candy, their performance significantly increases: 75% solve the problem. Another study shows how candy also improves performance on the Remote Associates Test (RAT). People are more likely to detect a fourth, related word to three other words if they are given candy.

These results, according to Alfano, are problematic for the responsibilist's thesis that virtue is necessary for knowledge. He writes that '[t]he responsibilist seems to be committed to saying that [the increased number of people who were successful in these measures with the intervention] did not know the solutions.'⁸⁷ It is important here to note that the percentages Alfano quotes are from the first of *three* experiments described in the 1987 paper, and very different to the results from the second. In the second study, more participants were used, and the results are far more modest than Alfano cites: 3 of 19 subjects were able to solve the problem without any intervention while the candy group had 5 of 20. The group who watched a comedy film were the most successful, with 11 of 19 people solving the puzzle. Interestingly,

⁸⁶ Mark Alfano, "Expanding The Situationist Challenge To Responsibilist Virtue Epistemology," *The Philosophical Quarterly* 62, no. 247 (April 30, 2012): 223–49., 234.

⁸⁷ Ibid. 236.

2 of 19 people who watched a ‘neutral film’ solved it, but 6 of 20 people who watched a ‘negative film’ solved it (so watching a negative film is more conducive to creativity than is candy or a neutral film).⁸⁸ Alfano uses these results to state that

[m]ost people are not curious, flexible, or creative as such; instead, they are *curious while in a good mood, flexible while in a good mood, and creative while in a good mood*. This suggests that they lack the consistent motivation required for intellectual virtue.⁸⁹

It is good to remember that this statement largely hinges on the fact that in 1987, two more people who received candy, and six more people who watched a comedy film were able to solve a puzzle compared to the three in the group with no intervention.

Concerns with the studies he cites aside for the moment, the most important worry for Alfano’s choice of evidence is that these studies are not showing increases in knowledge whatsoever, but rather increases in the amount of people who solve a problem. A linked concern is that creativity may not be a responsibilist virtue at all. Alfano anticipates this concern by saying this ‘shifts the burden of proof to the responsibilist. If creativity, flexibility, and curiosity do not belong to classical responsibilism, which traits do?’⁹⁰ Popular candidates for traits that unequivocally belong to responsibilism, such as conscientiousness and open-mindedness (both of which are considered extensively in the virtue epistemic literature) are not considered by Alfano.

The aforementioned social psychological studies also, according to Alfano, lend positive support to the thesis of epistemic situationism, that ‘[m]ost people’s conative intellectual traits are not virtues because they are highly sensitive to seemingly trivial and epistemically irrelevant situational influences’⁹¹ and that these results ‘suggest that people are in fact pretty bad at the candle task and other tests of creativity *unless seemingly trivial and*

⁸⁸ Alice M Isen, Kimberly A Daubman, and Gary P Nowicki, “Positive Affect Facilitates Creative Problem Solving.,” *Journal of Personality and Social Psychology* 52, no. 6 (June 1987): 1122–31, <http://www.ncbi.nlm.nih.gov/pubmed/3598858>, 1126.

⁸⁹ Alfano, “Expanding The Situationist Challenge To Responsibilist Virtue Epistemology.,” 235.

⁹⁰ Ibid. 237.

⁹¹ Ibid. 234.

epistemically irrelevant factors like mood enhancers come into play.'⁹² However, the administration of candy is not an *epistemically irrelevant situational influence*. Candy, as Alfano notes, was known by the original experimenters to increase the release of dopamine in the anterior cingulate cortex.⁹³ Dopamine is a neurotransmitter, so plays a direct role in cognition—as does glucose, a likely component of the candy. Beyond plausibly giving the subjects a boost in cognitive power, receiving candy or watching a pleasant movie under experimental conditions before being asked to solve a problem may have caused participants to frame the situation more informally. A more important consideration is that, if one has been given a box of matches, a candle, and some tacks in a funereal manner, then there is a good chance one might hypothesise that the experimenter wants the box of matches returned unscathed so as to be used with the next subject. In contrast, viewing the problem informally may embolden subjects to break the unwritten social rule of not destroying experimental equipment. Solving the problem requires the small insight that a box can be used in the solution, rather than just a receptacle for the matches, so any ritual performed beforehand that increases the likelihood of this insight cannot be considered irrelevant.

In case the virtue of creativity is praiseworthy for non-epistemic reasons, Alfano also describes a famous study in which subjects could be coaxed into exhibiting the vice of intellectual cowardice. If one asks people to determine whether a line is similar in length to three other nearby lines, they perform quite well. However, a series of studies by Solomon Asch in the 1940s and 1950s showed that if subjects were faced with a group of others who unanimously gave the wrong answer, then this increased the likelihood of the subjects also giving the wrong answer. Alfano interprets this result as evidence that people can be influenced by situations to be uncourageous: 'Rather than being *intellectually courageous*, people are at

⁹² Mark Alfano, *Character as Moral Fiction* (Cambridge: Cambridge University Press, 2013), 122 (italics in original).

⁹³ F Gregory Ashby, Alice M Isen, and And U Turken, "A Neuropsychological Theory of Positive Affect and Its Influence on Cognition.," *Psychological Review* 106, no. 3 (July 1999): 529–50., 529.

best *intellectually courageous unless faced with unanimous dissent of at least three other people.*⁹⁴

The problems with using the Asch studies as evidence for lack of intellectual courage are more obvious than the problems with his evidence against creativity. The first of these problems is that at least a quarter of people in the original Asch studies never yielded to group pressure at all; which, if failure on the Asch test is a signifier of intellectual cowardice, means that one in four people are still potential candidates for having the virtue of intellectual courage (this would not, of course, show that they have it, but just that they at least do not *not* have it). The second problem is that in post-Asch experiment interviews, the subjects who gave wrong answers gave two main reasons for doing so: one reason was that they actually believed they were wrong because the others must be right. This is consistent with intellectually-virtuous behaviour; the subjects have abandoned their own beliefs after acknowledging that their own faculties are prone to error and that it is unlikely they are right when six others unanimously report something different. Indeed this shows respect for knowledge rather than cowardice. The other reason subjects gave for answering incorrectly is that they knew they were right, but did not want speak out against the majority (either for fear of upsetting them or due to social pressure). This does seem closer to an admission of intellectual cowardice than the previous reason for giving a wrong answer, but intellectual courage should only be expressed during appropriate moments, and an undergraduate psychological experiment may not be on many people's lists as a critical moment in which one should make an intellectual stand in defiance against six other men (there were no women in Asch's original studies). More importantly, in the cases where the subject went along with the crowd but knew they were giving the wrong answer, *their knowledge state was unchanged* by the consensus—they merely (and possibly out of the virtue of politeness or prudence) chose not to publicly share their knowledge. The third problem for using the Asch studies as evidence against the existence of virtues is that

⁹⁴ Alfano, "Expanding The Situationist Challenge To Responsibilist Virtue Epistemology.", 245 (italics in original).

Asch's results have declined⁹⁵ or notoriously been absent when subsequent attempts have been made to replicate his experiment, leading to the study in 1980 being (courteously) called 'a child of its time.'⁹⁶

To summarise the problems with Alfano's approach so far: The thesis he sets up to attack that 'knowledge is true belief acquired and retained through responsibilist intellectual virtue,' would at best affect one of four varieties of responsibilism; the studies he cites do not support his interpretations; the studies he cites also neither represent good measures of virtues, nor the virtues themselves; and he cites an irreproducible study from 70 years ago as empirical evidence. However, Olin and Doris think that Alfano does not go far enough.⁹⁷ They believe that the situationist challenge applies to both responsibilist and reliabilist versions of virtue epistemology. For Olin and Doris, since they involve claims regarding the development of the virtues and define epistemological concepts in their terms, both responsibilism and reliabilism are empirically committed. They present their situationist challenge as a dilemma: virtue epistemologists (of both varieties) must either change their theory to accommodate empirical challenge (and thus lose the normative appeal of a virtue epistemology); or keep the normative appeal, but fall prey to empirical challenge. For Olin and Doris, the stakes are high as the non-existence of the virtues implies scepticism, since if knowledge is only attainable through exercising virtue and there are no virtues, then there is no knowledge. It is unclear whether they themselves accept scepticism, since although it is clear that they reject the existence of virtues, it is unclear whether they agree with the formulation of knowledge in terms of virtue.

Olin and Doris begin their critique with an attack on reliabilism. The reliabilist virtues include good *faculties*, such as eyesight, and *processing abilities*, such as the ability to draw

⁹⁵ Since the 1950s, there has been a decline in conformity, see Rod Bond and Peter B Smith, "Culture and Conformity: A Meta-Analysis of Studies Using Asch's (1952b, 1956) Line Judgment Task.," *Psychological Bulletin* 119, no. 1 (1996): 111–37.

⁹⁶ S Perrin, and C Spencer, "The Asch effect: a child of its time?" *Bulletin of the British Psychological Society*, 32, (1980): 405-406.

⁹⁷ Lauren Olin and John M. Doris, "Vicious Minds," *Philosophical Studies* 6, no. 19 (June 19, 2013): 1–28.

inferences, but cognitive functions, according to their reading of the results from social psychological experiments, are in fact anything but reliable. For Olin and Doris, ‘epistemic viciousness, rather than virtuousness, may best typify the human cognitive condition.’⁹⁸ They cite three reasons for unreliability: *the ‘transfer’ problem*—people have shown to have trouble transferring skills in one field to another, even if the fields are surprisingly close; *concerns with complex cognition*—people are more likely to believe something is true if it is easier to read, or spoken quicker rather than slower; and that *basic capabilities vary depending on priming*—facial recognition decreases following the completion of a crossword, and people are more likely to judge a hill as steeper the more tired they are. They admit that, in the first instance, these concerns show ‘contextual variability’ rather than unreliability, but derive unreliability from the contextual variability. For example, diminished performance on a crossword puzzle would make faculties unreliable, and, since font-size is epistemically irrelevant, credulity on its basis can only lead to a decrease in reliably reaching the truth. Since virtues have a necessary reliability component, unreliability means a lack of virtue.

So here, faced with the unreliability of faculty virtues, Olin and Doris predict that people will turn to responsibilism, as the responsibilist virtues could be those that safeguard against the ready errors of the faculties. However, they believe that this is problematic as people will not have any idea when to be vigilant, and quote studies that suggest people often overrate or underrate their confidence in dealing with epistemic problems. To paraphrase: for responsibilism to be a good supervisor of reliabilism it must be itself reliable; however, evidence shows it to be unreliable.

To return to Olin and Doris’ dilemma: virtue epistemologists can accommodate the empirical evidence from social psychology (which would then cause statements in virtue epistemology to lose their normative appeal), or virtue epistemologists can keep their normative appeal in face of the empirical evidence. Accommodating the empirical evidence

⁹⁸ Ibid., 6.

would cause virtue epistemologists to narrowly describe the virtues, for example, *Intellectually Courageous when Faced with a Religious Doorknocker*; however, this obviously loses the normative appeal of a catch-all *Intellectually Courageous*. Rather than address each of Olin and Doris' studies in turn, as was done with Alfano's paper, it seems appropriate to here attempt a more general (and ambitious) reply to the situationist challenge. If successful, this would have the benefit of impelling the situationists to reformulate their challenge rather than immediately returning with another study dug from the bowels of social psychology that shows that the behaviour of 40-or-so undergraduates was once influenced by an interesting independent variable.

This reply involves showing first that any sort of evidence used by philosophical situationists has been empirically superseded by better theories; and that, second, the virtues would not lose their normative appeal even if the evidence showed them to be non-existent or very rare. Guy Axtell in his forthcoming *Thinking Twice about Virtue and Vice* argues for the former. He agrees with the fact that virtue theory should not contradict empirical evidence, but points out that empirical situationism is not the leading theory in social psychology, nor has it been for some time. Instead, he suggests that if we are to seriously consider the evidence for virtues, then we should consider the best evidence available, and this comes from *Dual-process theory* and *Bounded Rationality theory*.⁹⁹ Neither of these theories, according to Axtell, contradict empirical commitments of virtue epistemology, and both may possibly offer support.

Dual-process theory, for example, separates thinking into *Type 1* and *Type 2*.¹⁰⁰ *Type 1 thinking* is automatic, quick, rough and cognitively inexpensive. *Type 2 thinking*, in contrast

⁹⁹ Guy Axtell, "Thinking Twice about Virtue and Vice," (*Forthcoming*), n.d., <http://philpapers.org/archive/axttta.pdf>.

¹⁰⁰ There is variability between Dual-process theories, and not all share the same descriptions of both types/systems of thinking. See Jonathan St B T Evans, "Dual-Process Theories of Deduction," in *The Oxford Handbook of Thinking and Reasoning*, ed. Keith J. Holyoak and Robert G. Morrison (New York: Oxford University Press, 2012).

is purposeful, slow, and cognitively expensive.¹⁰¹ If we consider *Type 1 thinking* to be analogous to the ‘faculty’ thinking of reliabilism, and *Type 2 thinking* to be analogous to the metacognitive thinking of responsibilism, then this might provide an explanation to Olin and Doris’ concern that responsibilism is unreliable. The reason it is unreliable, is that it is not always ‘on’—it is cognitively too expensive to run all the time. In fact, it would be cognitively impossible to always be on. After completing a crossword, one may be so mentally exhausted that it is more difficult to recognise faces than if one had not been involved in crossword-related activities.

This imperfection of the virtues does not detract from their normative appeal, as they can be seen (and usually are seen) as ideals. Conceiving the virtues as ideals means they avoid any worry of not being found by empirical study—in fact we would expect them to be rare. In this interpretation, even if nobody exists who has pure open-mindedness, or intellectual courageousness, we can still know what it is to be fully virtuous in these ways, and we can still know when we are far from it. By conceiving virtues as exemplars or ideals, the situationists might retort that since knowledge is only obtained through the virtues, this would mean that knowledge must be impossible or at the least rare. However, this problem—if it exists—is a problem for strong conservative responsibilism; but we have independent reasons for rejecting that.

2.6 Conclusion

In this chapter I have argued that an account of virtue requires both motivation and internal success components. I have addressed the situationist attack on the existence of intellectual virtues and found that it poses no risk. In the next chapter, I will investigate how the virtues of critical thinking differ from intellectual virtues in general by proposing a teleological conception of the critical thinking virtues. There are many things the critical thinking virtues

¹⁰¹ Keith E. Stanovich and Maggie E. Toplak, “Defining Features versus Incidental Correlates of Type 1 and Type 2 Processing,” *Mind & Society* 11, no. 1 (January 4, 2012): 3–13.

can ultimately aim at, for example, truth, eudaimonia, and so on, however, by comparing the virtues of those involved in other intellectual pursuits, I will argue that the proximal aim of critical thinking is intellectual autonomy.

3. The Aim of Critical Thinking

In this chapter I argue that the aim of critical thinking is the achievement and maintenance of intellectual autonomy. This is achieved by situating critical thinking amongst other social intellectual endeavours, specifically communities of inquiry and the competitive-cooperative field of scientific pursuit. By comparing the aims of these endeavours to the aims of critical thinking, I identify the core virtues of critical thinking as self-awareness, prudent wariness and conscientiousness. The external success of these virtues jointly constitute intellectual autonomy.

The virtues of the scientist, the member of a community of inquiry, and the virtues of the critical thinker are opposed at some points (though they may reconcile at a higher level—such as a shared-commitment at finding the truth). They are opposed because critical thinking and scientific thinking belong to different social practices, and different spheres of activity. The reason the scientist comes into conflict with critical thinking in some ways is because the scientist is a risk-taking adventurer in the field of ideas. What counts for intellectual integrity for scientists will be different from what we seek to teach in a critical thinking class. If a member of a scientific community has a theory that she is pursuing, despite knowing it may not be right, it is epistemically worthwhile to suspend critical thought to some degree as other members of a scientific community will provide much of this. Similarly, the virtues of a cooperative environment are different from the virtues of intellectual self-defence needed by an individual who wishes to function with intellectual autonomy in a world of bad arguments.

Once we establish the central focus of critical thinking, it will become clear that the concept has become contaminated with long lists of intellectual goods that are non-central and in some cases opposed to the core goals of critical thinking. Certainly, a great deal of good intellectual behaviour is involved in critical thinking, but we need to be specific about the goals of critical thinking to sort through the overabundance of positive intellectual qualities used in most definitions. The aim of this chapter is to provide this specificity. Furthermore, the central virtues of critical thinking will be compared to those which are not central, such as

honesty and integrity. I examine the thesis of the unity of the virtues and show how the virtues of critical thinking are achievable in the absence of other intellectual virtues (such as honesty and integrity). I will argue that the virtues of critical thinking can be found in the ideals of the Enlightenment; critical thinking can be seen as part of the Enlightenment drive for intellectual autonomy.

3.1 Goals of critical thinking vs. scientific thinking

The goals of scientific inquiry expressed through the cognitive division of labour are at points opposed to the core goals of critical thinking. In scientific inquiry, the overarching goal is to find the truth (or another epistemic good, such as best explanation). However, as scientific inquiry is performed in a social setting where others are also searching for truth, the immediate goal of the scientist—the goal that guides her actions—is to investigate and search out the *bona fides* of her own hypothesis. In doing so, there are two ways in which the immediate goal of the scientist diverges from the goals of critical thinking. The first is in respect of protecting her own hypothesis from premature refutation, and the second is with respect to advancing her hypothesis in a field of other plausible (or indeed *more plausible*) hypotheses.

To investigate her hypothesis, the scientist cannot be too critical, too often, too early, otherwise she may give up on good ideas and miss out on achieving epistemic goods. Lakatos identifies this as forming a ‘protecting belt’ of ‘auxiliary hypotheses’. For Lakatos, the successes of science are in part due to scientists’ efforts to shield the central core of a research project from the continual bombardment of refuting data.¹ In order to properly investigate a topic, in fact, ‘[w]e may rationally decide not to allow “refutations” to transmit falsity to the hard core as long as the corroborated empirical content of the protecting belt of auxiliary hypotheses increases.’² Success in a scientific setting depends upon the search for supporting

¹ I Lakatos, “Criticism and the Methodology of Scientific Research Programmes,” *Proceedings of the Aristotelian Society* 69 (1968): 149–86., 170.

² *Ibid.*, 134.

evidence for a hypothesis despite the existence of evidence contrary to it. A good scientist is one who can make the best accommodating justifications for this contradictory evidence, and who is determined to push a theory as far as it can reasonably go. For Lakatos,

[w]hile ‘theoretical progress’... may be verified immediately, ‘empirical progress’ cannot, and in a research programme we may be frustrated by a long series of ‘refutations’ before ingenious and lucky content-increasing auxiliary hypotheses turn a chain of defeats—with *hindsight*—into a resounding success story, either by revising some false ‘facts’ or by adding novel auxiliary hypotheses.³

These motivations provide a stark contrast to the motivations of critical thinking. When faced with strong evidence against a hypothesis, a critical thinker should ordinarily abandon it rather than add increasingly-complex assumptions that allow for the possibility that further empirical evidence will support the hypothesis. In this sense, critical thinking has the goal of *not being fooled*, whereas successful scientific research *requires* one to be sometimes fooled, or, more accurately, to proceed as if one were fooled; scientific progress benefits from the obstinate ingenuity needed to show how contradictory evidence does not overthrow one’s project. It is instructive here to return to the distinction between the *agent-based* conception of critical thinking and the *act-based*. A scientist may indeed be a critical thinker, and have the skills and dispositions to do critical thinking work. However, these skills and dispositions are circumscribed by a higher purpose, in that the scientist is more likely to utilise them to analyse the work of others, rather than her own. If the scientist was directly motivated to not be fooled, then she would turn her skills on her own work with at least as much rigor as on the work of others. Since scientists tend not to turn their critical thinking skills on their own hypotheses in this way, they must share an alternative goal to that of critical thinking—perhaps this goal is for their theory to triumph, or to seek to provide the most compelling support for it.

The second way in which the goals of the scientist differ from those of a critical thinker is that it is reasonable for a scientist to pursue a hypothesis that a critical thinker would consider *unlikely* (rather than falsified or empirically challenged, as in the previous section). Philip

³ Ibid., 134.

Kitcher argues that in scientific inquiry there is a division of cognitive labour, and that seen as a social project, it is of more epistemic benefit for some members to be working on endeavours that *prima facie* show less promise than others. For Kitcher,

We sometimes want to maintain cognitive diversity even in instances where it would be reasonable for all to agree that one of two theories was inferior to its rival, and we may be grateful to the stubborn minority who continue to advocate problematic ideas.⁴

Again, this provides a contrast to the goals of the critical thinker; the stubborn pursuit of problematic or unlikely ideas is antithetical to the goal of not being fooled. Kitcher explains how different spheres of intellectual activity require different views of what is rational (or productive) intellectual activity:

The idea that it is rational for a person to believe the better-supported theory seems, however, to be based on supposing that that person's aim is to achieve true beliefs (or some other desirable epistemic state, the acceptance of empirically adequate theories, for example). In that case, however, it appears that the person should also pursue the better-supported theory, since pursuing a doctrine that is likely to be false is likely to breed more falsehood (or less of the desired epistemic state). Only if we situate the individual in a society of other epistemic agents... does it begin to appear rational for someone to assign herself to the working out of ideas that she (and her colleagues) view as epistemically inferior.⁵

I contend that a critical thinker's target is personal intellectual autonomy or rational autonomy. Kitcher differentiates between two approaches to individual rationality 'one for belief and one for pursuit.'⁶ An individual scientist may personally believe that a particular theory has the best explanatory power or cogency, and in this sense it is rational for the scientist to *believe* in this theory; however, Kitcher shows that that does not mean it is rational for the individual scientist to *pursue* this theory. The scientist is part of a community in which there is a distribution of cognitive labour, and in this community, more epistemic goods are achieved by scientists pursuing a variety of theories in spite of what they personally believe is the most reasonable.⁷ If all scientists only pursued the most likely or promising of theories, scientific

⁴Philip Kitcher, "The Division of Cognitive Labor," *The Journal of Philosophy* 87, no. 1 (1990): 5–22., 7.

⁵ *Ibid.*, 8.

⁶ *Ibid.*, 8.

⁷ *Ibid.*, 8.

discovery would decrease and rigour would weaken. Michael Weisberg and Ryan Muldoon echo this sentiment: ‘a core tenant of strategic models about the division of cognitive labor is that what is epistemically good for individuals may differ from what is epistemically good for the community.’⁸ Critical thinkers should be impartial, but scientists, when in the pursuit of a theory, should be advisedly biased.

What I am working towards is the claim that critical thinking grows out of the social practice of answering the question ‘What do I believe?’ rather than ‘What role am I playing in some greater social epistemic enterprise?’ By comparing the goals of critical thinking to those of other intellectual endeavours, we can see what other types of good thinking have clouded the conception of critical thinking and filter these out to reach clearer conception. This conception will be teleological—it is structured around a central goal or target of critical thinking—and will provide a basis on which to identify the key virtues and skills involved in critical thinking.

3.2 Goals of critical thinking vs. communities of inquiry

As with the social practice of a division of cognitive labour, the goals of critical thinking can also be contrasted with the goals of a cooperative community of inquiry. A community of inquiry seeks to reach a consensus or other epistemic goods, through supportive dialectic.⁹ Lipman argues that the community of inquiry aims at fostering ‘multidimensional thinking’, which is comprised only in part by critical thinking. The other components, for Lipman, include ‘caring thinking’ and ‘creative thinking’. Contrasting each of these types of thinking against critical thinking will aid in delineating its goals. Lipman reminds us that ‘[i]n teaching for multidimensional thinking, one must be on one’s guard not to give the impression to students that critical thinking is equal to the whole of thinking.’¹⁰ However, the divisions

⁸ Michael Weisberg and Ryan Muldoon, “Epistemic Landscapes and the Division of Cognitive Labor,” *Philosophy of Science* 76, no. April (2009): 225–52., 227.

⁹ Lipman, *Thinking in Education*.

¹⁰ *Ibid.*, 201.

between Lipman's different types of thinking are complex and at times unobvious. Accordingly, he warns that 'one should not give the impression that the three different modalities of thinking are independent rather than in continual transaction with each other.'¹¹

Of the types of thinking involved in multidimensional thinking, creative thinking has the most obvious differences to critical thinking in that it is typified by an absence or abandonment of the usual rules, whereas critical thinking typically seeks to utilise rules.

The merely critical thinker is somehow conservative, in the sense that he or she is not content until finding a belief that dispenses with thinking. On the other hand, the creative thinker is essentially sceptical and radical. Creative thinkers are never so happy as when they have been let loose, like bulls in china shops, to smash to smithereens the bric-a-brac of the world.¹²

Lipman's running-together of the types of thinkers seems forced; anecdotally, I know more critical thinkers who are both sceptical and revel in the smashing of things than I do creative thinkers with the same qualities, but his point of differentiation is clear: the modes of activity are opposed—we think of critical thinkers as careful and methodical, and creative thinkers as those who seek to operate outside of method.

The link between critical and creative thinking has long been controversial. Sharon Bailin contends that

... there are serious conceptual and educational problems in this radical dichotomy between critical and creative thinking... [T]here are analytic, highly judgmental aspects to generating creative results, and imaginative, inventive aspects to being critical, and that it is exceedingly difficult to neatly separate out two distinctive kinds of thought.¹³

Bailin argues that the dichotomy is unfounded on two main grounds. First, in regards to problem solving, creativity requires both novelty and suitability, and critical thinking is the arbiter of suitability—and indeed alerts one to the fact that a solution is needed. Second, creativity usually does not involve the breaking of all of the rules, and the guide to which are appropriate to break in the circumstances is provided by critical thinking.¹⁴ These objections

¹¹ Ibid., 201.

¹² Ibid., 254.

¹³ Sharon Bailin, "Critical and Creative Thinking," *Informal Logic* IX, no. 1 (1987): 23–30., 24.

¹⁴ Ibid., 25.

to the dichotomy between critical and creative thinking arise from a misunderstanding of goals. Certainly, good thinking requires the interaction of multiple domains of intellectual activity; however, this is not to say that they are inseparable. It makes complete sense to say disparagingly of someone that he is a creative artist, but not any good. It also makes sense to say that someone is critical, but lacks flair or imagination. If we view critical and creative thinking as components of a goal of good thinking, and remove simple-generativity from the goals of creative thinking, then the landscape is clear. The goals of critical thinking are those related to the consumption of reasons, not their creation. The goals of creative thinking are related to novelty and imagination.

Lipman links caring to creative thinking in a similar amplificatory way to his linking of critical thinking and creative thinking.

One student who does not care much about the change of seasons will paint the leaves as if they were one dull color. Another student, more caring, and therefore more perceptive, will see leaves as gold, green, brown, red, and so on. So, the caring produces more precise perception and more colourful depiction in this particular case.¹⁵

It is obvious that a minimum requirement of ‘caring’ must be reached in order to invest oneself in any sort of intellectual endeavour, and it is uncontroversial to expect that there is a relationship between the amount of ‘caring’ for an activity, as Lipman uses the term above, and the effort one takes in pursuing its goal.¹⁶ Compare two friends, one of whom cares very much about fishing and can spend hours at the riverbank conceiving and experimenting with creative and critical tactics; whereas the other, who cares very little about fishing but is primarily motivated by a love for the outdoors and of friendship, is happy to employ the simplest and laziest approach. This use of the term ‘caring’ seems to simply be a measure of the amount of effort one is willing to employ in a practice. This type of caring—caring as *carefulness*—is inseparable from critical thinking.

¹⁵ Lipman, *Thinking in Education*., 254.

¹⁶ Zagzebski and Baehr’s *motivational component* of virtue and Adams’ *engaging of the will* are examples in which virtue theorists have accounted for ‘caring’ for a goal.

There are other components of caring thinking that Lipman describes that deviate from caring as effort: *the appreciative*—which he describes to be typified by acts such as prizing, valuing, celebrating, etc.; *the active*—organising, participating, managing, building, etc.; *the normative*—requiring, obliging, compelling, etc.; *the affective*—liking, fostering, honouring, etc.; and *the empathic*—considerate, compassionate, nurturant, etc.¹⁷ It is a curious point that empathic thinking gets a list of adjectives rather than gerunds—perhaps this is gesturing towards the type of person one *is* if one is empathic rather than the types of activities one performs. In any case, attempting to find a goal for caring thinking from the list Lipman provides is difficult, as the items run together critical, caring and creative aspects of thinking (organising, valuing, building, etc.), as it is his thesis that these coagulate into his ‘multidimensional thinking’.

An interpretation, therefore, of at least one of the goals of the caring component of the social practice of thinking within a community of inquiry could be to ensure everyone feels encouraged to share their opinions. Speaking imagistically, the goal of caring thinking is to provide warmth to the cold of critical thinking. Though critical thinking and caring thinking may share in an ultimate goal (of reaching the truth, or realising the human potential, or the production of epistemic goods), their interim goals differ. If their ultimate goal was reaching the truth, then encouraging people to share their epistemic assets rather than self-consciously guarding them might contribute to this goal. We can say that Bob succeeded in being critical, but unfortunately failed in being caring—he found multiple salient errors in what people were saying, but he failed to take into consideration their feelings, and reduced several members of the group to tears. We can also say that Bob succeeded in being caring, but failed in being critical—in focussing too much on encouraging others to speak, he lost track of the purpose of discussion, and his nurturing and polite nature caused him many times to accept falsehoods on the basis of bad evidence, leave errors in reasoning unaddressed, and dubious assumptions

¹⁷ Ibid., 271.

unchallenged. The goals of the community of inquiry differ from the individual goals of critical thinking, caring thinking and creative thinking; in a community of inquiry, members must suspend many (not all) of their critical activities in order to provide the environment and time in which to work things through.

3.3 Critical thinking virtues as the virtues of inquiry

Recently, Sharon Bailin and Mark Battersby have argued, as I do, that the critical thinking dispositions are best conceived from the agent-centred perspective that virtue epistemology offers. They further argue that these virtues are best described as the virtues of reasoned argument and inquiry:

We maintain... that arriving at reasoned judgments is the central goal of argumentation/critical thinking. ... [W]hatever the particular role or intention [of those involved in the argument], because the ultimate epistemological goal is to reach a reasoned judgment, the normative structure of the practice necessitates inquiry and thus the various virtues of inquiry.¹⁸

Bailin and Battersby hold that the aim of all argumentation and critical thinking is reasoned judgement, regardless of the role played within the social argumentative environment. Bailin and Battersby use the example of a courtroom. They claim that the judge, jury, prosecution, and defence *altogether* are in the business of inquiry through reasoned-argument. However, it does not follow on this basis that *individually* each role has the aim of reasoned-argument. Simply because an entire practice can be characterised as aiming for a reasoned judgement does not mean every element in the practice must have the same aim. It might be argued that those with different roles within an endeavour know that they are playing a role, and know that their role requires specific behaviours to reach the aim of the endeavour—like the scientist who knows she is part of an enterprise involving the epistemic division of labour—however, it does not make sense to say we should characterise individual practices in terms of the practice of the overarching whole. Taking Bailin and Battersby’s example of the courtroom

¹⁸ Bailin and Battersby, “Fostering the Virtues of Inquiry.”, 3. Bailin and Battersby’s use of ‘elsewhere’ refers to: Sharon Bailin and Mark Battersby, “Beyond the Boundaries: Critical Thinking and Differing Cultural Perspectives,” *Ethics and Education* 4, no. 2 (October 2009): 189–200.

having the goal of reaching a reasoned judgement: the goal of a good defence lawyer is not to come to a reasoned judgement, but to maximise the chances of his client's case being appreciated by the magistrate or jury. This is not reasoned judgement, this is advocacy. A good judge, simply because she must apply the rules of evidence, will at times have aims that are *necessarily opposed* to reaching a reasoned judgement; a judge may exclude evidence which she knows to be epistemically relevant, but unfair or inadmissible. A good judge will not admit as evidence a confession obtained through torture, even if the confession could be used towards reaching a reasoned judgement regarding whether the defendant is guilty.¹⁹

As seen in scientific pursuit, there is a division of labour in the courtroom; the overall institution has social purposes which the individuals do not share. At this stage it is valuable to consider at what times one is in the situation of simply wanting to reach a reasoned judgement. A contender from Bailin and Battersby's courtroom might be those who find themselves in the jury, where one has a goal to reach a reasoned judgement based on the performances of the judge, prosecution and defence. A good jury should be discussing the case in the way in which Bailin and Battersby have envisaged: the *12 Angry Men* model of inquiry; however, even the jury cannot seek evidence or clarification in reaching their decision. Bailin and Battersby's goal of fostering the virtues of inquiry is excellent for the classroom. Removing bias and rancour, and democratically discussing controversies while seriously weighing one side and then the other, then filling in gaps of knowledge is an admirable educational aim. However, the world does not operate with such an Olympian view.

A similar approach to Bailin and Battersby is offered by David Cohen, who argues that the 'argumentative or *critical* virtues are the acquired habits and skills that help us achieve

¹⁹ Of course, this is an over-simplification of the rules of evidence. Both epistemic and legal considerations are given to excluding evidence, such as hearsay or evidence obtained through unlawful means. However, these complications serve to reinforce the point that even the judge has aims beyond a 'reasoned judgement', or that the judge's aim is a 'reasoned judgement reached in a particular way'.

the goals of critical thinking.’²⁰ There is a clear overlap in the skills and habits that help one achieve the goals of critical thinking and argumentation, just as there is an overlap in the skills of many intellectual pursuits, but the goals of critical thinking and argumentation are not the same. Despite claiming argumentative virtues are those that achieve the goals of critical thinking, Cohen’s further explication places argumentative goals as the aims of critical virtues (which he holds to be the same as argumentative virtues).

What are the critical virtues? Critical virtues can be defined by the goods that they help us procure and by the accomplishments that they help us achieve in the course of argumentation. That means we need to identify the positive goods that can be achieved by argumentation. Logic, rhetoric, and dialectic all have their own distinctive accomplishments: logical success is valid derivation; rhetorical success is rational persuasion; dialectical success is critically-achieved consensus.²¹

If argumentative virtues aim at argumentative achievements, then this is non-controversial. However, it is wrong to claim equivalence between argumentative virtues and critical thinking virtues, and argumentative aims and critical thinking aims. The aims of critical thinking are neither consensus nor persuasion of others (though the skills of critical thinking will help in these endeavours).

Andrew Aberdein argues that ‘virtue argumentation holds out the possibility of a systematic basis for the frequently unanalyzed appeals to moral obligations to be found in many discussions of reasoning.’²² Moral obligations may or may not be present in argumentation, but my thesis is that they are a separate concern to critical thinking. Critical thinking is a far more individualistic activity; its value is not in convincing or agreeing with others, or being honest towards them, but in reaching a decision which is one’s own.

The practice of inquiry, and argumentation to some extent, is necessarily social, but there are many different ways of being social. There is social inquiry, where genuine other

²⁰ Cohen, “Keeping an Open Mind and Having a Sense of Proportion as Virtues in Argumentation.”, 54.

²¹ Ibid., 55.

²² Andrew Aberdein, “Virtue Argumentation,” in *Proceedings of the Sixth Conference of International Society for the Study of Argumentation*, ed. FH van Eemeren et al. (Amsterdam: Sic Sat, 2007), 1–9., 8.

interlocutors are present and to whom one is accountable, where all are sharing information and discussing a topic with the goal of reaching a reasoned consensus. There is the sociality of strangers arguing on the internet or intimate partners deciding the best place to spend the holidays. These are all different phenomena. There is also a social aspect to making one's mind up for oneself in the sense that nobody is an epistemic island; there are social aspects to the inputs and outputs of one's thinking. However, critical thinking ultimately is a matter of one deciding for oneself what one really believes. Being a good critical thinker is different from being a good judge or scientist or lawyer. Bailin and Battersby argue the goal is better thought of as social inquiry (or even sociable inquiry) and that the practice of critical thinking is exemplified when we form communities of inquiry and cooperate. However, my claim is that where there is advocacy, representation, or epistemological divisions of labour, as there are in communities of inquiry, then these aims are different to critical thinking. The practice of critical thinking is an *individual* practice. It occurs when one is deciding about matters that are important, ensuring that one has taken into consideration all of the relevant information, whether one has sought out any missing information, whether one has been hoodwinked by others, whether one has internally-consistent views, and so on.

Those involved in the teaching of critical thinking worry about offending others or being a bully. They work in classrooms and have seen far too often the way group debates and discussions can descend into unfruitful, egotistical one-upmanship. There are good reasons to avoid these situations, and any good critical thinking class will be as encouraging as it is critical. It will involve instruction on how to best use argumentative skills to reach reasoned-judgements, and to apply these skills in a collaborative way that does not cause undue offence. However, the individual has concerns that differ from that of the group. The next section will explore my claim that the goal of critical thinking is intellectual autonomy.

3.4 The goal of Critical Thinking is Intellectual Autonomy

In this section I argue that the critical thinking virtues aim at intellectual autonomy, an ideal that promotes intellectual self-governance.²³ To have control over one's beliefs means that one is not controlled by forces outside oneself—simply put, one is not fooled. I argue that there are three directions from which one can be fooled: by others, by oneself, and by chance. The critical thinking virtues can be seen as those that promote a kind of intellectual self-defence against those things that can hold power over our beliefs.

Intellectual autonomy as *not being fooled* is consistent with Lipman's characterisation of critical thinking:

the role of critical thinking is defensive: to protect us from being coerced or brainwashed into believing what others want us to believe without our having an opportunity to inquire for ourselves.²⁴

Lipman here is speaking of defence against others. His 'brainwashed' is too strong—'fooled' is more appropriate, but one also needs to be on guard against people who, as they are self-deceived, are unaware they are actively propagating their deception. The sincere but ignorant person is often as much a source of misinformation as the liar.

However, actions taken to avoid being fooled need to be performed with a mind to context. If in an argument where one interlocutor, due to a desire to save time or make things simpler, advances a generalisation to support his argument that is imperfect but completely acceptable in context, the autonomous person should accept it, as long as its imperfections can be reasonably judged to be not important. In contrast, someone who is overzealous about not being fooled will seize upon and challenge unimportant imperfections, and in their derailment

²³ Siegel identifies the relationship between critical thinking and autonomy:

A central dimension of critical thinking is its interrelationship with *autonomy*: in so far as a student is a critical thinker, she enjoys an *independence of judgment* that is of fundamental educational importance. That is, she is free to judge (and act) independently of external constraint, in accordance with her own reasoned appraisal of the matter at hand. Harvey Siegel, "Truth, Thinking, Testimony and Trust: Alvin Goldman on Epistemology and Education," *Philosophy and Phenomenological Research* LXXI, no. 2 (2005), 357.

²⁴ Lipman, *Thinking in Education*., 47.

of the exchange, destroy all possibility of fruitful discussion. The tragic pedant is not autonomous in the way in which one who is not fooled is autonomous—the tragic pedant is a slave to his inability to overlook unimportant errors or irrelevant (mis)information. He is especially vulnerable to being fooled as he continues to miss the point by focussing his resources on the wrong area. For example, consider someone who is provided a spurious argument that also has several factual errors and grammatical missteps. A pedant may become transfixed by these missteps and spend a great deal of time offering minute corrections. Once these are fixed, the pedant may conclude that the argument is fine—completely missing its spurious character. By allocating limited cognitive resources on unimportant minutia, one has less left over for what is important. We may easily be distracted by a laser-focus on the details or be misled by deliberate small mistakes which mask a larger ulterior motive. For example, if people know their manager is a fanatic for grammatical errors, they could cunningly disguise weaknesses with strategic errors, in the hope their supervisor's critical faculties would be busy chasing and correcting the poor grammar and thus less likely to spot the larger concern in their proposals, budgets, or arguments.

We can extend Lipman's self-defence account of the ends of critical thinking to also include defence against the deceptions that originate from within. These sorts of self-deceptions include biases, the misapplication of heuristics and a natural propensity towards wishful-thinking. Daniel Kahneman's work on Type 1 and Type 2 types of thinking here outlines the many ways in which humans predictably make errors in their cognition.²⁵ There are many well-known general thinking errors to which humans are prone, and one should be aware of these in order to not be their victim; however, in addition to these *species*-specific biases there are *individual*-specific errors of which a person must be cognisant in order to be

²⁵ See Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011)., and Daniel Kahneman and Amos Tversky's work on biases and heuristics: Daniel Kahneman and Amos Tversky, "Subjective Probability: A Judgement of Representativeness," *Cognitive Psychology* 3 (1972): 430–54; Amos Tversky and Daniel Kahneman, "Judgement under Uncertainty: Heuristics and Biases," *Science* 185 (1974): 1124–31; Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47 (1979): 313–27.

intellectually autonomous. For example, consider the person who knows she is prone to credulity when placed in confronting situations. Whenever an argument escalates to become socially-uncomfortable or if an opponent becomes aggressive, this person, out of a desire to keep the peace, will tend to agree rather than stand by their convictions, or attempt to find an unwarranted, but safe, middle-ground. The intellectually autonomous person will recognise the potential for this character flaw to undermine her autonomy and take steps to defend against its destructive impacts. Perhaps she will avoid unnecessary or unproductive situations that look like they may become unpleasant, perhaps she will develop ways in which she can approach arguments so as to not provoke others to aggression when asserting opposing views, perhaps she will simply notice the increased urge to agree and stop herself from doing so until she has time to reflect when the pressure has passed.

There is also a positive component to intellectual autonomy. It is unrealistic to expect that this positive component involves building up the sure foundations of knowledge through private meditation; more realistically, it involves the disposition and skill to be responsible for one's beliefs about things that are important. It is important to distinguish intellectual autonomy at play here from the type of autonomy characterised by one who is obstinately ignorant of the beliefs of others. A person who has formed a belief in his early years and deliberately ignores or instantly rejects all evidence to the contrary is in one regard his 'own person', but he is not intellectually autonomous as he is controlled by chance. His beliefs are ruled by the order in which he came across them. Intellectual autonomy does not mean one should stubbornly or fanatically stick by one's own opinions no matter what. Instead it captures a different type of autonomy where one's beliefs are one's own based on one's powers to convince oneself reasonably about things. We do not want to be someone who believes everything they were told when they were a child, or who has passively received all epistemic goods from others; conversely, we do not want to be a person who does not believe something unless they have personal sensory evidence of the event or fact in question. There is a golden

mean: one seeks to be a person who decides who the experts are, and believes them insofar as their expertise warrants faith, and is guided to seek out more reasons.

In response to concerns raised by John Hardwig that by relying upon the expertise of others, one is—and should be—intellectually dependent on the intellectual activity of others, Harvey Siegel explains that this seeking out the expertise itself is a case of autonomy.

[A]cceptance of... expert opinion, if it is to be rational, requires quite a bit of critical reasoning. [An agent] must establish that she is epistemically dependent in the case at hand, that she either is unable to remove her dependence or would be irrational to endeavor to do so, that the expert on whom she is dependent is indeed expert, etc. Even in genuine cases of epistemic dependence, then, it is not irrational for the non-expert to think for herself; nor does rationality require an uncritical or passive acceptance of expert opinion.²⁶

Although a person may be ‘epistemically dependant’ upon others, this does not undermine their autonomy, which exists in determining who the relevant experts are and what one’s response should be in the light of their testimony and one’s own evidence. The fact that knowledge comes from others is not a problem for the concept of intellectual autonomy—action in a world in which experts exist demands that one should play an active role in seeking those experts out. However, this still allows for one to be epistemically-dependant on one’s past self. Scherkoske argues that

Not all epistemic borrowings are from others; often our debt is to our earlier selves. We remember *that* we believe something but no longer know precisely *why* we believe it... In the regulation of our beliefs, we extend ourselves to borrow upon the resources of others as well as our earlier selves.²⁷

People who have been careful and conscientious in the formation of their beliefs should be confident when they face new or contradictory evidence to a degree dependent on the level of care they have taken in the development of their beliefs.²⁸

²⁶ Harvey Siegel, “Rationality and Epistemic Dependence,” *Educational Philosophy and Theory* 1, no. 20 (1988): 1–6., 3.

²⁷ Greg Scherkoske, *Integrity and the Virtues of Reason* (Cambridge: Cambridge University Press, 2013), 111-112.

²⁸ A question has been raised whether the rules of rationality or reason could be a source of heteronomy, since they appear to be influences beyond the self. Mark Schroeder succinctly responds to this question with his own: “[H]ow could any heteronymous source of rules gain the kind of authority over every rational agent which we so readily take rationality to have?” (p 309). See his article for a full defence.

A distinction must also be made between the intellectually autonomous person and the lazy agnostic: a person who does not actively seek out any reasons, and forms no belief unless sufficient evidence is laid at his feet. By emphasising the social role of autonomy we may see how the lazy agnostic is not autonomous. The lazy agnostic lives in a world in which one cannot be responsibly agnostic on important things. Decisions on important things are necessary in order to properly function as a member of society; and to properly make these decisions, one needs to acquire large amounts of information. Autonomy demands actively seeking evidence to best make inevitable and necessary epistemic choices: What diet and exercise regimen is best for my health? Is it moral to eat animals? For whom should I vote? Do I believe in human rights? Should I buy the product from the infomercial? Appropriately answering these questions requires one to actively seek out evidence. Passive recipients of arguments, rather than being autonomous, would be shackled by their ignorance and paralysed by a lack of knowledge; thus epistemic autonomy requires positive epistemic actions. The lazy agnostic who wishes to stay officially neutral and sceptical until somebody provides him with convincing evidence, who will not grant belief—but will not deny it either—but simply state he does not know, is not autonomous. He is entirely dependent on other people or luck to provide him with convincing arguments.

One cannot be equipped to not be fooled if one is not curious or diligent in seeking out information. Those who attempt to engage with a topic with a few first principles in logic and innate scepticism seem to be bad critical thinkers because they simply do not know enough. Ignoring whether the premises are true forces one to pose hypotheticals—“If this were true, then this would follow.” To evaluate an argument one needs two things, not just a grasp of the logical structure but also a grasp of the plausibility of premises. Autonomy does not mean a complete withdrawal from the problems of the world; rather, intellectually autonomous persons can epistemically fend for themselves, and operate with independence in an epistemic

Mark Schroeder, “Scope for Rational Autonomy,” *Philosophical Issues* 23, no. 1 (2013): 297–310.

environment—and this requires the acquisition of epistemic goods, and to not leave this acquisition up to chance. There are certain matters which are so significant that one does not have a reasonable choice whether to have an opinion about them. Hoping that one's parents were right, or the last person one spoke to was honest, or that one's first reaction to a controversial question was the correct one, makes one's beliefs entirely contingent on chance.

This conception of autonomy has Kantian roots, where independence and imperviousness to others is not enough, but rather autonomy is a response to one's own powers of reason. The Enlightenment tradition requires one to be one's own person and to take on the crucial task of deciding for oneself rather than outsourcing all intellectual work for important matters. Kant describes it in this way.

*Enlightenment is the human being's emergence from his self-incurred minority. Minority is inability to make use of one's own understanding without direction from another. This minority is self-incurred when its cause lies not in lack of understanding but in lack of resolution and courage to use it without direction from another.*²⁹

Critical thinking is the heir to, or at least a part of, a lasting tradition of Enlightenment thinking as a kind of personal and social practice, and the virtues of critical thinking are those virtues which are central for the internal rewards of the practice of intellectual autonomy.

Autonomy has long been argued to be an educational ideal.³⁰ Robert Dearden argues that in seeking to foster autonomy,

... what is being aimed at is the development of a kind of person whose thought and action in important areas of his life are to be explained by reference to his own choices, decisions, reflections, deliberations—in short, his own activity of mind. ...

A person is autonomous to the degree, and it is very much a matter of degree, that what he thinks and does, at least in important areas of his life, are determined by himself. That is to

²⁹ Immanuel Kant, "An Answer to the Question: What Is Enlightenment?", Trans. Gregor, Mary J., in *Practical Philosophy*, ed. Mary J Gregor (Cambridge: Cambridge University Press, 1996).

³⁰ Harry Brighouse argues that autonomy is an essential component of living well, and thus it is essential to instil these attributes skills through education:

Without autonomy-related skills we are easily lost in the moral and economic complexity of modernity. This does not imply that no-one will hit upon, or at least approach, good ways of life without their aid, nor that rational deliberation is infallible. As in other areas of knowledge, inspired guesses, trusting the reliable communication of another, and manipulation by reliable others, can help us to discover how to live well. And rational deliberation confronts barriers. But in the absence of fortunate guesses and well-informed parents, children will be much better placed to enter alternative good ways of life if they are well informed about alternatives and are able rationally to compare them. Harry Brighouse, *On Education, Technology* (New York: Routledge, 2006)., 19

say, it cannot be explained why these are his beliefs and actions without referring to his own activity of mind. This determination of what one is to think and do is made possible by the bringing to bear of relevant considerations in such activities of mind as those of choosing, deciding, deliberating, reflecting, planning and judging. Autonomy is thus possible not only in the philosophically fashionable field of morals, where many writers do indeed speak of rules or a code of one's own, but in any field whatsoever where a person can have his reasons—in political judgments, consumer spending, planning a holiday, choosing or shaping a job, appraising the suggestions or expectations directed towards us by others, forming an aesthetic or scientific opinion, deciding whether we believe in God, determining our stance in relation to the acts of various sorts of authority and so on. Personal autonomy is not just part of morality, or solely a condition of moral 'authenticity'. It is a much more pervasive personal ideal.³¹

According to Dearden, the value in autonomy as an educational ideal is partly instrumental, in that many social roles require its exercise. Also, perhaps more importantly, it is to be valued due to the 'satisfactions of exercising this kind of agency and dignity which it is felt to accord to the agent.'³² Autonomy is contrasted to heteronomy, a state in which one's actions and beliefs are governed by external forces; Dearden describes two sources of heteronomy:

Firstly, a man's thoughts and actions may be governed by other people. This would be so when, consciously or unconsciously, he is passive or submissive towards compulsion, conditioning, indoctrination, expectations or an authority unfounded on his own recognition of its entitlement. A second form of heteronomy would consist in a man's being governed by factors which are, in a sense, in himself, but which are nevertheless external to his activity of mind. Examples of this sort of heteronomy might include the various forms of psychosis and perhaps also neurosis, together with physiologically based addictions and derangements.³³

Heteronomy can have its source in the deceptions or control of others, and in self-deception. Dearden's examples of self-deception are quite extreme, but self-deception can be caused by biases, heuristics, or simple cognitive imperfections as well as the extremes of physiological or psychological disorders.

3.5 Conclusion

The aims of critical thinking differ from those of other intellectual endeavours, such as those found in scientific pursuit, the courtroom, communities of inquiry, and in argumentation. The

³¹ R F Dearden, "Autonomy in Education," in *Education and Reason, Part 3 of Education and the Development of Reason*, ed. R F Dearden, P H Hirst, and R S Peters (London: Routledge & Kegan Paul, 1972), 70-72.

³² Ibid., 72.

³³ Ibid., 63-64.

aim of critical thinking is intellectual autonomy—it is deciding for oneself. Intellectual autonomy draws from the Enlightenment tradition and attempts to realise certain fundamental goods of that tradition. This Enlightenment tradition has grown from the idea of the independent-minded person who will not be, or who tries not to be, fooled again. Out of this tradition has evolved a set of standards and internal rewards that makes it an intrinsically-worthy human pursuit. The locus of attention here is not necessarily truth or happiness—it might well turn out that people would be happier if heteronomous, these are different matters—critical thinking aims at the personal worth of intellectual autonomy. The intellectually autonomous person recognises that she is awash with people trying to convince her of things, that she is prone to be impelled by personal biases and prejudices, and that it might be impossible to eliminate all chance from her knowledge acquisition. She may not have perfectly rid herself of all such influences, but she is successful insofar as we admire her for being her own intellectual person.

4. The Virtues of Critical Thinking

In this chapter I contend that the virtues of critical thinking are those that contribute to the establishment and maintenance of intellectual autonomy. As we saw in the previous chapter, intellectual autonomy is not simply standing on one's own feet, independent of all the work of others; it is not being crippled by an inability to let unimportant errors slide; it is being a critical consumer of the work of others, and of one's own work, within one's obvious limitations. Intellectual autonomy is not to have discovered all truths for oneself—an impossibility in a complicated world—but it is to exercise one's full critical faculties in the review and acceptance of the beliefs that one has about important matters. It is about making up one's own mind about one's own beliefs, not because one has been browbeaten into believing them, or because believing them is easy and convenient, but because one is convinced by appropriate evidence and arguments from legitimate authority that have been adequately sought out.

I argue that the aim of critical thinking is intellectual autonomy. Autonomy is often mentioned as an educational aim related to critical thinking. For example, Siegel notes that autonomy is a necessary trait of the critical thinker

The critical thinker must be *autonomous*—that is, free to act and judge independently of external constraint, on the basis of her own reasoned appraisal of the matter at hand.¹

In a later clarification he claims that 'autonomy is a *necessary but not sufficient condition of critical thinking*' and it is 'not a sufficient condition... because such reasoned appraisal might be of poor quality, and thus fail to satisfy the "epistemic quality" demands of the reason assessment component.'² In my formulation, autonomy is a sufficient condition for critical thinking, but critical thinking is not a sufficient condition for autonomy, as one can think critically but be under the control of external forces. In this section, I identify the critical thinking virtues as *self-awareness*, *prudent wariness*, and *conscientiousness*. I argue that each

¹ Siegel, *Educating Reason: Rationality, Critical Thinking and Education*., 54.

² Harvey Siegel, "Neither Humean Nor (Fully) Kantian Be: Reply to Cuypers," *Journal of Philosophy of Education* 39, no. 3 (August 2005): 535–47., 542-543.

virtue aims at a particular type of external success; *self-awareness* aims in *not being fooled by others*, *prudent wariness* aims at *not being fooled by others*, and *conscientiousness* aims at *not being fooled by chance*.³ It is possible to have a critical thinking virtue without being externally successful in its aims, and it is possible to reach one or two of the aims without reaching intellectual autonomy; however, jointly, these three targets are constitutive of intellectual autonomy. I distinguish these constitutive virtues of critical thinking from other, non-constitutive and ancillary virtues.

4.1 Self-awareness

The virtues of critical thinking are those that contribute to intellectual autonomy. As I mentioned above, an important part of intellectual autonomy is the dispositions and skills needed for not being fooled about important matters. Three virtues can be identified here: *self-awareness*, which is a virtue needed to know and believe in accordance with one's cognitive strengths and weaknesses; *prudent-wariness*, a virtue required to identify and avoid the deception of others; and *conscientiousness*, a virtue of belief acquisition. These virtues specifically address three causes of heteronomy—first, the external government of one's belief or action by other people; second, the internal government by processes that are not a proper function of reason; and third, the governance of one's belief by chance.⁴

Self-awareness is a similar virtue to intellectual humility. However, I contend that it is preferable to identify *self-awareness* as the virtue required for intellectual autonomy, as conceptions of intellectual humility often contain non-autonomous components. Humility is a virtue in the Christian tradition that in part includes the disposition not to think too much of

³ I discuss the concept of external success in section 2.4.4

⁴ Zagzebski notes that '[t]he self is intellectually heteronomous in this way when it permits states of belief to change or continue without conscientious self-reflection' (p 258). I argue that it is important to recognise that intellectual heteronomy can also arise from the influence of others. Zagzebski notices this, and although she does not go so far as to say that we can be intellectually coerced by others, she does admit others may influence our beliefs: 'commercial and political advertising are common ways of pressuring people to form particular beliefs even though the beliefs are not literally coerced.' Linda Zagzebski, "Intellectual Autonomy," *Philosophical Issues* 23, no. 1 (October 25, 2013): 244–61., 246.

oneself. Indeed, overconfidence is antithetical to the aims of intellectual autonomy; one of the reasons our biases escape us is that we are too self-assured in our own cognitive abilities. Humility reminds us we are fallible and thus should take sufficient care in approaching epistemic situations that expose our failings. However, although one should be alert to the pitfalls that one may fall into, one should not think *less* of oneself than one ought to. There is a long convention of using the term humility to describe a virtue characterised by acting in a self-deprecatory manner rather than displaying a simple awareness of one's shortcomings. Norvin Richards identifies concerns with the self-deprecatory view of humility.

... there do seem to be praiseworthy people in the world, and this is awkward, if to be humble is to have a low opinion of oneself. For, such people are logically capable of humility and perhaps even especially praiseworthy for it. But, in them, humility would be erroneous, a matter either of ignorance or of self-deception. It is hard to see how such a thing could be a virtue at all, let alone an especially admirable one.⁵

Ignorance and self-deception are clearly at odds with intellectual autonomy. By contrast, the virtue of *self-awareness* contains the same positive components of intellectual autonomy that intellectual humility contains, but without the invitation to self-deprecatory ignorance and self-deception. Zagzebski, also conscious of the possibility of humility undermining autonomy, identifies 'trust' as a component of intellectual autonomy, of which trust of one's own abilities is an integral part.⁶ In this sense, the type of intellectual humility sought as a component of critical thinking is not one that contains an irrational distrust in one's own abilities. Richards concludes that humility is best regarded as 'appropriately positive feelings about oneself, feelings founded not in error—as with the improperly proud—but in self-knowledge.'⁷ Zagzebski also argues that if one interprets intellectual humility as 'the virtue whereby a person is disposed to make an accurate appraisal of her own competence' then it can be

⁵ Norvin Richards, "Is Humility a Virtue?," *American Philosophical Quarterly* 25, no. 3 (1988): 253–59., 253.

⁶ Zagzebski, *Virtues of the Mind*., 160.

⁷ Richards, "Is Humility a Virtue?," 258.

understood as the ‘mean between the tendency to grandiosity and the tendency to a diminished sense of her own ability.’⁸

Zagzebski outlines a case in which intellectual humility undermines autonomy

[Consider] the closed-minded, nonautonomous person who is afraid of being misled into falsehood because of his lack of confidence in his own intellectual powers. Of course, there is always the possibility that such a person has made an accurate assessment of his own abilities, in which case his lack of investigation of contrary views may not exhibit a vice. But let us suppose that he has genuinely underestimated his ability, and his lack of intellectual autonomy is motivated by a fear of being led away from truth. Such a person is similar to the individual who attempts to maintain moral innocence by avoiding persons and situations that might tempt him away from his moral values. In a sense both of these persons display a kind of integrity, but their excessive cautiousness... prevents them from growing in knowledge in the first case and moral awareness in the other.⁹

In Zagzebski’s example, the non-autonomous person fails to be autonomous as he has underestimated his ability. Therefore, when identifying the constitutive virtues of intellectual autonomy, rather than use the virtue of intellectual humility—which comes with a history that requires one to introduce caveats that we do not mean it to include the vice of inaccurate self-depreciation—it is simpler to use the virtue of *self-awareness*. One’s awareness of one’s strengths can lead one to be confident and even righteously aggressive in one’s formation or protection of beliefs, but humbleness (by some interpretations) in regard to the possession of one’s strengths can lead one to downplay them. *Self-awareness* is not opposed to autonomy in the ways in which various interpretations of humility can be; furthermore, the virtue of *self-awareness* is fundamental to the positive components of humility. Richards’ brief summation that ‘humility consists in taking oneself no more seriously than one should’ shows that self-appraisal is necessary before one decides how seriously to take oneself.¹⁰

The external aim of self-awareness is to not be fooled by oneself, and to be aware of and appropriately responsive to one’s biases. As argued in the previous chapter, a virtue requires internal success, which is a function of intention and reliability, but it is possible to have a virtue without achieving its external aim. In the case of self-awareness, one can imagine

⁸ Zagzebski, *Virtues of the Mind*., 220.

⁹ Ibid., 192.

¹⁰ Richards, “Is Humility a Virtue?”, 258.

a case in which someone had been under a post-hypnotic suggestion to feel a gross dislike of vegans but be unaware of this disposition. Such a person could be admirable in his efforts to become conscious of how his biases may impact his decisions, but find that every time he is confronted with a vegan his temper rises, which he (wrongly) attributes to the ridiculousness of the vegan's behaviour. He may go to Herculean lengths to not allow bias influence his opinions, but every time an epistemic state involves a vegan, he automatically forms a decision that is not his own. However, as he may still have a virtuous intention towards the good, and act in a ways that would reliably achieve the external aim under normal circumstances, he could still be virtuous even though he does not achieve the external aim of the virtue. Being under a post-hypnotic suggestion to detest vegans is not a normal circumstance.

A more troubling source of circumstances that undermine the external success of the virtue of self-awareness is described by psychologists who argue we have unconscious motivations which are not accessible to us in any straightforward way, and we have to interpret ourselves with considerable skill to understand what they really are. One could be motivated by self-awareness, and go through all the motions of being self-aware, but fail due to a hidden or repressed motivation that is incapable of being accessed. The virtue of self-awareness is an ideal that we all fall somewhat short of because we struggle to fully understand our unconscious motivations. Being under the influence of a post-hypnotic suggestion is a clear case of something preventing a virtue's expression yielding external success, but unconscious motivations are not—perhaps—abnormal at all. The skills of self-awareness include skills of self-interpretation and also the skills of listening to other's reasonable views about ourselves.

4.2 Prudent wariness

The second virtue of critical thinking is that of *prudent wariness*. This is the virtue Lipman is referring to when he states that a part of critical thinking involves avoiding being 'brainwashed'. At its heart is an alertness to, a wariness of, the bad arguments of others, which, as it involves the skills and dispositions to avoid being hoodwinked, contributes to its owner's

intellectual autonomy. It has obvious links to *self-awareness*; by knowing that we are capable of making lazy cognitive choices, have the capability of deceit and the propensity to exaggerate if it is beneficial to our ambitions, we are more likely to identify these things at play in the epistemic life of others. A further way in which *self-awareness* and *prudent wariness* are linked is that *self-awareness* is often required in order to properly allocate one's wariness resources. For example, if we know that we are more easily swayed in belief by those who wear suits, then we can allocate more wariness to situations in which we are confronted by suit-wearing persuaders, and perhaps give the arguments of non-suit-wearing persuaders a closer look.

Prudent-wariness has not being fooled by others as its external success condition. As before, one can have the virtue but never be externally successful. For example, consider someone who is motivated towards the good and who does all she could reasonably be asked to do to detect and avoid trickery, but who happens to meet an expert in illusion and misdirection and is fooled. In any normal situation, her wariness would have reliably achieved the goal of not being fooled by others, but this is not a normal situation—and other situations where she is not at the mercy of an expert illusionist tend not to fool her. She has the virtue of prudent-wariness without, on this occasion, managing the external success of it. She has failed to obtain perfect intellectual autonomy in this regard, but she is still virtuous and has acted virtuously.

The virtue of *prudent-wariness* includes the capacity to identify when people have agendas, and what these are; that they will often provide glib reasons and apply a great deal of pressure to accept their agendas. The intellectually autonomous person will have both the skills and dispositions to epistemically respond to these pressures without giving away their autonomy. The vices at play here are gullibility, as typified by the person who agrees with the last person he talked to; and paranoia, as roughly typified by the conspiracy theorist. The goals of prudent wariness and self-awareness are not perfect epistemic infallibility, but rather a response to reasons in a manner that establishes and maintains intellectual autonomy. One

should be aware that no matter how careful one is to avoid the deceptions of others, there will always be cases in which one will be fooled; and no matter how aware one is of one's biases, there will always be cases in which one's biases distort the interpretation of evidence. I will discuss the latter below in terms of the virtue of integrity.

4.3 Conscientiousness

As we saw above, rather than being an intellectual hermit or a stubborn fanatic, intellectual autonomy requires one to rely on the intellectual work of others. The virtues of critical thinking also are those that add to the acquisition of, and search for, best belief. Perfection in this regard is not the goal. We should know that we are fallible, and that others may succeed in fooling us despite our best efforts. So 'best belief' is best belief in the circumstances, and should be seen as an ideal to strive towards. Intellectual autonomy does not mean that after a brief survey of the arguments of experts that one is capable of casting a clear judgement about a complicated matter, but neither does it mean that decisions should be left to the experts alone. Lipman states that

... autonomous thinkers are those who "think for themselves," who do not merely parrot what others say or think but make their own judgements of the evidence, form their own understanding of the world, and develop their own conceptions of the sorts of persons they want to be and the sort of world they would like it to be.¹¹

The intellectually autonomous person cannot be one who leaves all intellectual work to others, as autonomy requires one to decide for oneself, and this involves determining who the experts are, what evidence is missing and what is appropriate belief or action given the circumstances. So in addition to the negative virtues of avoiding being fooled about important matters, there are virtues of critical thinking which are also positive, in that they are involved in self-initiated acquisition of beliefs.

The aim of conscientiousness is not being fooled by chance. As with the other virtues, there are ways that this can occur which prevent one from achieving the aims of the virtue of

¹¹ Lipman, *Thinking in Education*., 25.

conscientiousness while still retaining the virtue. Say, for example, that you are motivated to find the answer to a question, and this requires you to survey the relevant literature. You are diligent and make an exhaustive search of all relevant articles, print them out and leave them on your desk. However, in a turn of bad luck, a cleaner spills your coffee while you are away onto a few papers, and covers his tracks by throwing them out. The removal of these papers causes you to conclude the wrong answer, or to not make an accurate appraisal of the relevant articles; so we cannot say you achieve the external goal of having your epistemic state not under the control of chance or circumstance. However, your behaviour is such that under ordinary conditions it would have led to an accurate appraisal of the literature. As such it is still virtuous.

The virtues of acquiring best belief are better represented in the virtue epistemic and critical thinking literatures than are the virtues of avoiding bad belief. Virtues that involve the search for belief include: open-mindedness, conscientiousness, intellectual perseverance and diligence. James Montmarquet claims that of these, conscientiousness is fundamental. In fact, as he defines conscientiousness as ‘a concern to find truth and avoid falsehood,’ Montmarquet would consider its full realisation would be inclusive of the virtues of prudent-wariness and self-awareness.¹² Indeed, Montmarquet holds that the other intellectual virtues are regulatory of the overarching goal of the virtue of conscientiousness.¹³

Fundamentally, the epistemic virtues (besides epistemic conscientiousness itself) are forms by which the latter may be *regulated*. Unregulated by these, bare conscientiousness (as we have seen) may degenerate into some form of intellectual dogmatism, enthusiasm, cowardice, or related evil.¹⁴

Montmarquet describes three categories of regulatory virtues: the virtues of *impartiality* (that include ‘an openness to the ideas of others, the willingness to exchange ideas..., the lack of... personal bias directed at their ideas, and the lively sense of one’s own fallibility’); the virtues

¹² James Montmarquet, *Epistemic Virtue and Doxastic Responsibility* (Lanham, Maryland: Rowman & Littlefield, 1993), 59.

¹³ *Ibid.*, 25.

¹⁴ *Ibid.*, 25.

of *intellectual sobriety*, (that ensure that one does not become too excited in one's search for truth that one 'embrace(s) what is really not warranted'); and the virtues of *intellectual courage*, (which Montmarquet describes as 'the willingness to conceive and examine alternatives to popularly held beliefs, perseverance in the face of opposition..., and the determination required to see such a project through to completion.')¹⁵ A distinction at this juncture needs to be drawn between describing virtues as regulatory in the sense that they are necessary for the full realisation of an overarching virtue; regulatory in the sense that they are subordinate virtues, constitutive parts of an overarching virtue; and regulatory in the sense that they are causally influential, in that they are often seen in conjunction with the overarching virtue—or are usually useful in achieving its aims—but are neither constitutive of, nor necessary for the realisation of that virtue.¹⁶ Montmarquet subscribes to the former of these interpretations. For Montmarquet, 'mere conscientiousness is not enough'; as conscientiousness is the pursuit of truth, this follows readily from observation of the many who dogmatically and passionately pursue truths that are plainly worthless. It is the regulatory virtues that Montmarquet cites that elevates the unvirtuous search and 'love for truth' to its virtuous form. Conscientiousness is the overarching virtue that is only realised—only becomes virtuous—with the proper functioning of other virtues, and it is they that are defined in its terms, not it that is defined in theirs. The regulatory virtues are 'forms of conscientiousness.'¹⁷

Montmarquet argues that by failing to exhibit other virtues, even if a person may be motivated to seek the truth (thus conscientious), she fails to be *fully* conscientious. However, there is reason to define conscientiousness as its own virtue, rather than to say that a person fails to reach full conscientiousness because of the failings of a separate virtue. Montmarquet's configuration has conscientiousness as bare attitude of a love of truth; the remaining virtues

¹⁵ Ibid., 23.

¹⁶ Take courage as an example of a regulative (sometimes referred to as structural) virtue. Courage, roughly, helps us to achieve the goals of the other virtues when facing danger. One could be honest without being courageous, and one could be courageous without being honest.

¹⁷ Ibid., 23.

being the skills and performances involved in transforming the love of truth into the virtue of conscientiousness. However, one cannot say of others that they love the truth unless they are genuinely responsive to it, or turn away from it towards comforting self-deceptions; and neither can one say others have a love of the truth if they refuse to adequately seek it out. A virtue must have implicit in it competencies and dispositions, and the fact that one can fail at conscientiousness suggests that it does so too. Therefore, we should consider conscientiousness as its own virtue rather than a bare attitude that is regulated by other virtues. The other virtues are independently valuable—not just valuable because of their contribution to conscientiousness.

Montmarquet has chosen conscientiousness to be a higher good, of which other intellectual virtues help in the realisation. However, conscientiousness can be defined more narrowly to mean something more like diligence, not simply a desire for truth, but the motivation and skill to investigate and acquire information to the extent demanded by the situation. If a student claims to have had an experience with a teacher in which the teacher acted unprofessionally, a conscientious investigation by university administrators does not require Montmarquet's 'love of truth' but rather the ability and determination to diligently attempt to get to the bottom of the situation based on the severity of the allegation.¹⁸ Furthermore, a 'love of truth' by itself may lead people to bury themselves in unimportant minutia, endlessly and aimlessly collecting facts purely for the joy of collection.

Conscientiousness, defined as the disposition to apply appropriate diligence to the task of acquiring knowledge is a vital component in the achievement of intellectual autonomy. Zagzebski observes that conscientiousness gives rise to trust in oneself.

A conscientious person has evidence that she is more likely to get the truth when she is conscientious, but she trusts evidence in virtue of her trust in herself when she is conscientious, not conversely. Her trust in herself is more basic than her trust in evidence, and that includes evidence of reliability.¹⁹

¹⁸ Ibid., 23.

¹⁹ Zagzebski, "Intellectual Autonomy.", 255.

Trusting that one has been diligent and has canvassed all the relevant evidence is closely-related to the trait of *carefulness*. When inevitably confronted by complicated situations and competing claims, the autonomous person requires the ability and motivation to acquire and process information, rather than being paralysed by ignorance and waylaid by the unreliability of information acquired by chance. The virtues of critical thinking are those that lead to intellectual autonomy, they are not simply those that contribute to *conscientiousness*—though diligence in obtaining truths and avoiding falsehoods is certainly a component. For this reason, *conscientiousness* should not be seen as the overarching virtue of critical thinking, but rather a component. The other virtues of *self-awareness* and *prudent wariness* are separate from *conscientiousness*, and should not be seen as merely regulating it.

In defining *conscientiousness* more narrowly, it is useful to consider its opposites, which are laziness, lack of carefulness, and apathy. The lazy person does not take the time to discover the truth; he cuts corners and does not properly investigate important matters. Thus perseverance is a quality that is at times necessary to be *conscientious*. A further way in which one may fail to be *conscientious* is by failing to be open-minded. The *conscientious* person must face up to facts that may be unpleasant, and many situations require one to examine deeply-held personal beliefs. The intellectually autonomous person is prepared to hear opinions that she may not like and judge them on their own merits. One must be curious as to how good the premises are, what alternative premises there might be—one way of being fooled about principles is not thinking about what alternative principles might exist, and a great deal of epistemic life has to do with judging what the missing or alternative premises of an argument might be.

The three virtues of critical thinking I have described are those whose targets are constitutive of intellectual autonomy. Intellectual autonomy is a matter of having one's beliefs governed by one's own best reason, rather than influenced by one's bias or others' deception. Part of this includes the responsibility to attempt to acquire best beliefs. Many intellectual virtues are missing from this list. These, like in the case of intellectual courage and honesty,

are regulative rather than constitutive. The next section addresses this distinction: most conceptions of critical thinking include a long list of positive intellectual qualities, of which honesty is almost always one. By not including it and others as integral virtues I am departing from a long tradition of including most positive intellectual activities as critical thinking dispositions. It is my claim that critical thinking is not about the entire compass of intellectual life, and thus does not include every positive intellectual aspect of life. The ideal critical thinker, though sharing many similarities, is not the equivalent of the ideal scientist, the ideal student, the ideal teacher, the ideal judge, or the ideal member of a community of inquiry.

To clarify the relationship I propose between the critical thinking virtues and autonomy, consider the following diagram:

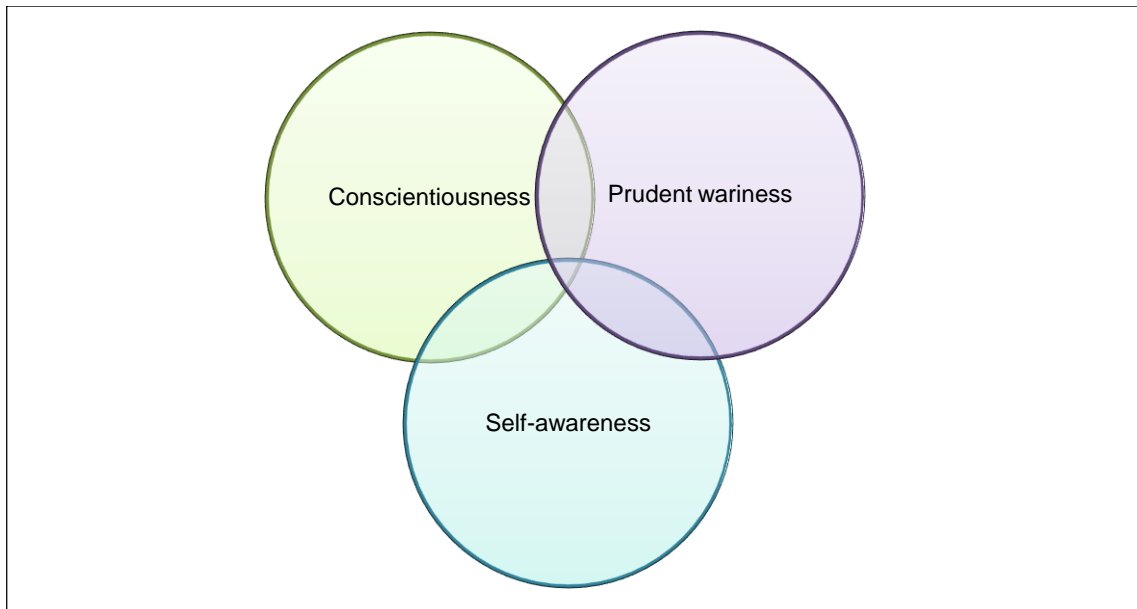


Figure 1: The relationship between the critical thinking virtues

As Figure 1 illustrates, the virtues of critical thinking are interlocking—one cannot really have one without some measure of the other. Battersby and Bailin describe how *self-awareness* is at times necessary for *conscientiousness*:

No one escapes the historical context in which he or she lives. Everyone can, however, become much more self-aware about this context and its influence on their point of view. We reject the idea that all views are biases in the derogatory sense, but acknowledge that while there is no

“view from nowhere,” striving for the regulative ideal of objectivity is one that can be facilitated by personal, intellectual and cultural self awareness.²⁰

Zagzebski, too, argues that ‘higher degrees of conscientiousness require considerable self-awareness and self-monitoring.’²¹ The virtue of *conscientiousness* requires one to be wary of one’s self and others in one’s search for best belief; the virtue of *prudent-wariness* requires one to be *conscientious* in formation of one’s belief but also aware of one’s weaknesses to certain types of deception; and the virtue of *self-awareness* requires one to be *conscientious* in one’s introspection and cognisant of others’ appraisal of one’s weaknesses and strengths. However, as described above, each of the virtues of critical thinking also contain an independent component, in that there is a great deal more involved in their full realisation than is involved in the parts that interlock. For example, some introspective parts of the virtue of *self-awareness* do not require one to exercise the virtue of wariness of others, and so on. The aims of each of the critical thinking virtues are jointly constitutive of intellectual autonomy. For clarity, this relationship is illustrated in Figure 2.

²⁰ Mark Battersby and Sharon Bailin, “Critical Inquiry: Considering the Context,” *Argumentation* 25, no. 2 (April 9, 2011): 243–53., 251.

²¹ Zagzebski, “Intellectual Autonomy.”, 255.

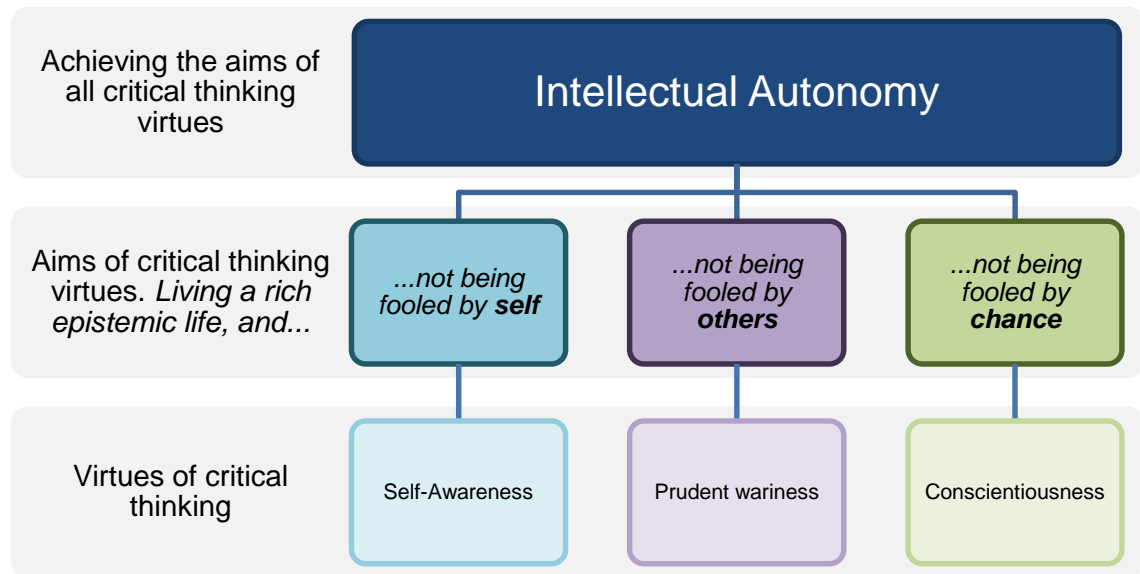


Figure 2: The relationship between the aims of the critical thinking virtues and intellectual autonomy

Recall that there is also an active component to *conscientiousness*, and that not being fooled by chance requires one to actively seek out evidence for beliefs about important matters—this design does not build up the picture of an the intellectually autonomous person in a purely negative way, as we are describing one who achieves these aims in the course of living a rich epistemic life. If one has been successful in doing so while not being fooled in one’s acquisition of belief, then one has achieved intellectual autonomy—one is self-governed.

4.4 The relationship between the critical thinking virtues and other intellectual virtues

In this section I situate the virtues of critical thinking amongst other intellectual virtues that are ancillary, but non-constitutive, or that supervene on the critical thinking virtues. In the next chapter, my aim is to order a list of positive qualities in the vicinity of critical thinking into those qualities and skills that are central and those that are supportive. The aim is to provide a teleological conception of the social practice of maintaining intellectual autonomy to the extent one can. We will never have perfect introspective powers of self-awareness, and we will never catch every deception of others. An intellectually autonomous person would not outsource her

opinions to others about things that matter; but on the other hand she would accept when she is not an authority and that she does really depend on the cognitive labour of others in all sorts of ways. However, depending on the cognitive labour of others is not outsourcing one's views to them. The intellectually autonomous person is one who is the critical consumer of the opinions and views of others, while on guard against deceptions both foreign and domestic.

There are many virtues of critical thinking that are regulatory, in that they are causally influential in achieving the goals of intellectual autonomy without constituting them. For example, politeness is an admirable quality that is, most of the time, conducive to the goals of the critical thinker. Politeness may aid in accessing valuable reasons that would not be available through impoliteness. However, politeness is not constitutive of critical thinking as there are many cases in which politeness is detrimental—or of little use—to the achievement of intellectual autonomy. For example, the virtue of politeness may obligate someone to take the time to listen to lamentable arguments simply because they are deeply-held by a sensitive person. This may range from being trapped at a dinner party by a family-member who wishes to share with you their abhorrent political views, or enlighten you on the details of an intricate conspiracy theory, to the more subtle trend in science-reporting in which equal time is given to opposing views with little thought to the relative credibility of each of these views.²² Indeed, a person may need to at times be extremely *impolite* in order to maintain her intellectual autonomy. In this sense, although politeness is a virtue which provides benefits for intellectual autonomy in many cases, other situations exist in which the aims of intellectual autonomy and politeness are clearly opposed. This is not the case with the three virtues of critical thinking previously listed; we cannot imagine a situation in which the virtue of being *self-aware* undermines intellectual autonomy, neither a situation in which the virtue of *prudent wariness*

²² Steve Jones, *BBC Trust Review of Impartiality and Accuracy of the BBC's Coverage of Science*, 2011, http://downloads.bbc.co.uk/bbctrust/assets/files/pdf/our_work/science_impartiality/science_impartiality.pdf.

or the virtue of *conscientiousness* are counterproductive to the attainment of intellectual autonomy.

A different relationship can be seen between the virtue of *open-mindedness* and the virtues of critical thinking. Rather than being a constitutive virtue, or an ancillary virtue, the open-mindedness that is necessary to achieve intellectual autonomy supervenes on the virtues already described. Baehr notes that open-mindedness must be moderated by other virtues:

Open-mindedness, intellectual caution or intellectual tenacity, for example, are unlikely to be very helpful for reaching the truth if possessed in isolation: open-mindedness typically must be tempered by a kind of mindfulness and adherence to arguments and evidence, intellectual caution by a firm commitment to discovering the truth, and intellectual tenacity by a willingness to revise a belief or course of enquiry if the evidence finally calls for it.²³

Conscientiousness engages open-mindedness, but the other critical thinking virtues provide it with direction to ensure it does not lead to gullibility. People who fully realise the virtues of *conscientiousness* and *self-awareness* will already be open-minded to the extent that is needed for intellectual autonomy; they have the *self-awareness* of their biases that normally close their mind, and they have the *conscientiousness* to face these despite the pain or discomfort of doing so. One who is open-minded in this way will also have the dispositions and skills to seek out alternative information, and these are inherited from *conscientiousness*.

People who are self-aware, who know their own imperfections and realises they are blinkers, and who wants to find the truth will be open-minded to the extent that open-mindedness is necessary to be a critical thinker. There is open-mindedness about relevant evidence one encounters or should seek out regarding a belief that one is concerned about; however, this does not mean there is not an extreme or further part of open-mindedness that is not part of critical thinking on the basis that it does not contribute to intellectual autonomy. For example, creativity, or creative problem-solving may require an open-mindedness that may be separate—or even opposed—to the project of intellectual autonomy. Classroom

²³ Baehr, “Character, Reliability and Virtue Epistemology.”, 210.

brainstorming activities require open-mindedness, with many expressly admonishing students not to be critical during the process.

Intellectual courage—taken as the courage to stand up to and not be intimidated by strong, articulate, charismatic and bullying people when they do harm to one’s beliefs—is again not a virtue constitutive of intellectual autonomy. It is certainly the case that we probably could not succeed in manifesting the critical thinking virtues without having some measure of courage. However, it makes complete sense to talk of the cowardly critical thinker, or one who is intellectually autonomous but who does not engage in confrontations, even when it would be virtuous to do so. There is a separate aspect of intellectual courage as the ability and disposition to turn one’s critical faculties diligently towards painful or deeply-held beliefs, though this is closer to the virtues of open-mindedness and perseverance, which as above were seen to supervene on other *conscientiousness* and *self-awareness*.

All other virtues, like courage, as a practical matter, are needed in most circumstances to exercise the constitutive virtues of critical thinking; however, there are circumstances in which you might not need any courage to be a critical thinker. This is different from the constitutive virtues of *prudent-wariness*, *conscientiousness*, and *self-awareness*—there is no way that an ordinary person could be intellectually autonomous without these virtues. These virtues are necessary, whereas the others are contingent. What is important about the critical thinking virtues is that they are not simply bare attitudes, but they have competencies attached to them. To be *prudently wary* of others is not just to be reliably on one’s guard, but requires one to have sophisticated powers of assessment. Without these powers of assessment, one is not really wary. To be conscientious does not merely mean that one sincerely professes a love of truth; and to be self-aware, one cannot simply be committed to untutored introspection. The competencies that are part of the full realisation of these virtues are the most teachable aspect of them. Critical thinking teachers attempt to teach the attitudes involved in the virtues of critical thinking, however we are on much more solid ground teaching the competencies—one

reason being that the competencies are easier to measure than the attitudes. This will be investigated further in the section 6.2 where the critical thinking debate is revisited.

The virtue of integrity poses a more complicated problem. Integrity in part means that one is true to one's word, and in another means that one is true to oneself.²⁴ Stan van Hooft holds that '[i]ntegrity... can be expressed in honest actions or in authentic reflection about oneself.'²⁵ Though honesty is clearly a virtue, there is nothing contradictory in saying that someone is intellectually autonomous, that he is his own person, but he regularly lies, and fails to follow through with his promises. In this sense, the first aspect of integrity is non-constitutive of critical thinking; however, the latter component is, as it contributes to intellectual autonomy. If one does not have a minimum level of consistency, what is there to be autonomous about? Someone who is he 'own person' must be conservative to some extent in her beliefs; she should not be in the habit of simply abandoning a belief if the most recent piece of evidence is bad for it. Somebody who does not have consistency of belief, to an extent, will not really be a candidate for intellectual autonomy. If one has the critical thinking virtues, and one is successfully realising them, then integrity will also obtain to the extent it is relevant to intellectual autonomy. As with open-mindedness, there are plenty of other important parts of integrity that go beyond critical thinking. Integrity is its own excellence.

The question remains as to the extent one should be conservative about one's beliefs. At what point does conservatism turn into bias, and thus impinge upon the virtues of *self-awareness* and *conscientiousness*? There is a risk that conservatism leads to fanaticism; however, without it, one simply ends up at the whim of the most recent evidence. The value of the conservatism of integrity consists in not throwing away hard-won epistemic victories due to recent reversals. For example, if I receive word that a close friend of mine whom I hold in high regard, acted cruelly towards a toddler, and all my previous dealings with my friend

²⁴ Damian Cox, Marguerite La Caze, and Michael P Levine, *Integrity and the Fragile Self*, *Australasian Journal of Philosophy*, vol. 81 (Aldershot, England: Ashgate, 2003). See also Stan van Hooft, "Integrity and the Inchoate Self," *Philosophy Today* 39, no. 3 (1995): 245–62.

²⁵ Stan van Hooft, *Understanding Virtue Ethics* (Chesham, U.K.: Acumen, 2006).128.

have not in any way suggested that he has the propensity to act in such a way, the story should not be sufficient to overthrow my high-opinion. However, if another person who is a mere acquaintance of my friend hears the story, then she has a greater reason to allow it to shape her opinion. One obvious explanation of the difference in belief is that I have more evidence about my friend than does the mere acquaintance. I will discuss this below. A separate explanation may be that I have a loyalty to my friend, and thus ought not to automatically countenance any bad news about him, whereas the mere acquaintance does not have this obligation. However, this introduces a moral component to doxastic conservatism. Whether there is a moral component of integrity that compels one to act against intellectual virtues is an interesting question. Damian Cox argues that the moral virtues lead (and should lead) to epistemic vices.²⁶ We often admire people who stand up for their beliefs and even who display a measure of irrationality in doing so; however, this loyalty to belief or to others is not part of the virtues of the critical thinker. For our purposes, the moral aspect of conservatism of belief can be considered to be separate to intellectual autonomy. If in the name of loyalty I deny a preponderance of evidence that my favoured political party's policies are on the whole misogynistic, or that my friend is a habitual toddler-tormentor, I am ignoring evidence for a non-intellectual reason—whether or not doing so is a moral or an immoral thing is another matter. If the denial of evidence originates from a rejection of my own powers of reason due to an allegiance to a creed, friend or belief, then I am not intellectually autonomous; I am instead ruled by obligations of loyalty.

The second component of integrity—being true to oneself—is a component of intellectual autonomy; however, drawing the line between instances of doxastic conservatism that are due to stubborn bias and those that are due to a proper conservatism of belief is difficult. Richard Paul highlights this point in that ‘... people often cannot distinguish moral

²⁶ Damian Cox, “Judging Character,” *American Philosophical Quarterly* 50, no. 4 (2013): 387–98.

from religious conformity, or demagoguery from genuine moral integrity.’²⁷ However, in the previous example involving my friend and an alleged tormented toddler, a distinction between me and the mere acquaintance hearing a story about my friend can be drawn. For me, the story is new evidence that must be judged in the light of the old; for the acquaintance, perhaps the only thing she has heard about my friend is that he picks on toddlers. We have different doxastic histories; my ‘net balance’ of evidence needs to be updated in light of the new information, but in doing so I need to consider the possibility that I have only seen my friend during his best moods, or may have interpreted acts as assertive that may rightly be called cruel. If my friend comes up clear on all accounts, and I cannot detect any bias in these, the single disconfirming story would be insufficient for me to change my opinion.²⁸ It makes sense to respond to evidence in different ways if one has previously encountered a different set of reasons. However, the concept of integrity goes further than a simple prudent recognition of the epistemic status of past beliefs; without some level of consistency of belief, autonomy is undermined. This conservatism of belief, rather than being grounded in its power to preserve identity, can be grounded in what Greg Scherkoske describes as ‘well-placed self-trust’. Scherkoske argues that reliance on the epistemic work of others and one’s past self is an inseparable part of our intellectual life:

... [I]t is fair to characterize our epistemic and practical agency as an economy that would not function but for debt. We borrow on the expertise, knowledge and skill of others; our future selves borrow on the epistemic work of our present selves. Our beliefs, intention, plans and convictions are shot through with such debt and reliance. While our live, epistemically conservative response courts risk, self-trust is a virtually indispensable condition, allowing us the capacity and skill needed for judgment and planning and leading to more or less settled convictions about what to believe and do. Self-trust, then, forms the basis for having a settled set of convictions, values and plans that we call our own.²⁹

²⁷ Richard Paul, “Critical Thinking: What, Why, and How,” *New Directions for Community Colleges*, no. 77 (1992), 14.

²⁸ Unless, of course as Hume states ‘the testimony be of such a kind, that its falsehood would be more miraculous, than the fact, which it endeavours to establish.’ David Hume, *An Enquiry Concerning Human Understanding*, ed. Peter Millican (Oxford: Oxford University Press, 2007), 83.

Siegel, “Neither Humean Nor (Fully) Kantian Be: Reply to Cuypers.”

²⁹ Scherkoske, *Integrity and the Virtues of Reason*, 128-129.

It is interesting at this juncture to draw attention to the similarities of the language used by Scherkoske and that of Ennis, who defines critical thinking as ‘reasonable reflective thinking focused on deciding what to believe or do.’³⁰ For Scherkoske, the ‘settled convictions’ afforded by self-trust are ‘virtually indispensable’ for the type of activity Ennis describes.

For Scherkoske, ‘*self-trust* is trust in the reliability of one’s opinions, or in the things in one’s self that generate those opinions—one’s cognitive faculties, one’s judgement, one’s epistemic habits and practices.’³¹ Self-trust is a normal and necessary component of intellectual life, as

... most of us, most of the time, are epistemic conservatives. Even though the balance of reasons for our beliefs and intentions would likely improve if we bothered to get more information and consider it carefully, we typically don’t. Such conservatism might suggest a largely passive phenomena, a kind of laziness or diffidence. But this would be misleading, for in fact epistemic conservatism involves dispositions to positively *avoid* revising these attitudes: it is expressed, in part, as a positive bias in favor of an agent’s present beliefs and intentions. Of course, given our limited time and cognitive capacities, this couldn’t be otherwise for most of us. We have many cognitive and practical goals, limited time and resources, and in regulating our beliefs, convictions, intentions and plans, at any given moment we often have no choice but to go with what we’ve got. With limited powers of memory, we cannot keep track of most of the evidence we have for our beliefs. It may even be irrational, imprudent or simply self-indulgent to lavish more time subjecting our convictions, intentions and plans to further reflection.³²

Scherkoske is careful to note that though this conservatism may come at the expense of forming better beliefs, ‘epistemic conservatism is neither a counsel of willful ignorance nor obviously sinister: it is simply an economical (though defeasible) disposition to *not* engage in continued evidence-gathering and deliberation once beliefs and intentions have been formed.’³³ Rather than a defence of bias, or special-pleading for the epistemic superiority of one’s own beliefs, integrity requires well-placed self-trust. According to Scherkoske, self-trust is *well-placed* if the convictions ‘were formed and maintained by a set of capacities for judgment that reliably support reasoned and defensible convictions.’³⁴ Furthermore, well-

³⁰ Ennis, “A Taxonomy of Critical Thinking Abilities and Dispositions.”, 10.

³¹ Scherkoske, *Integrity and the Virtues of Reason.*, 125.

³² *Ibid.*, 116-117.

³³ *Ibid.*, 117.

³⁴ *Ibid.*, 129.

placed self-trust ‘involves the weighing of considerations for reconsideration.’³⁵ The well-placed self-trust component of integrity is thus compatible with the virtues of critical thinking hitherto described: an agent with well-placed self-trust has no strong reason to believe that they have formed their convictions through non-virtuous processes, or that they are deluded or brainwashed. The virtue of conscientiousness requires an agent to assess one’s convictions and one’s conviction-forming processes, and the virtue of self-awareness requires an agent to be aware of personal weaknesses in conviction-forming processes. As mentioned previously, self-awareness is not entirely negative, but also provides the courage to rely on one’s convictions on the basis that one would be aware under what epistemic conditions they were formed. The well-formed self-trust of integrity therefore supervenes on the virtues of conscientiousness and self-awareness. The consistency of belief we expect from integrity is thus contained in the virtues of critical thinking.

Impartiality poses an interesting problem, as failing to be impartial in a particular way means one is under the influence of external or internal forces and thus not autonomous; however, it makes no sense to treat one’s own values from a fully-impartial perspective as this is basically not having values and is not a position of autonomy as one is alienated from one’s stance. If one is going to achieve intellectual autonomy, it is best not to start acting as if one’s beliefs are not one’s own. To address the concern of whether there is a way to be intellectually autonomous and exercise the critical thinking virtues while being impartial, consider a situation in which your values are being challenged. The critical thinking virtues appear as though they demand that you step aside and assess the relative merits of one side and the other. However, on what basis can you do this? Value questions cannot be addressed with a view from nowhere and a person in possession of the critical thinking virtues is not going to do this. Critical thinkers assess reasons to see whether they are strong from their perspective. Given they believe certain things, they will determine whether there has been anything raised that

³⁵ Ibid., 131.

should change their mind. If a contradiction in their belief is pointed out, they would have grounds to address this; if it is pointed out that their belief led to consequences they do not accept, they would have to address this as well. If it is pointed out that the belief was based on a lie or self-deception that they had not noticed, or a genealogical history that they do not accept, they should revisit their belief. However, if the challenge to their values simply takes the form of offering an alternative, then this provides little reason to revisit their belief. One must be fair about one's own beliefs without abandoning them or pretending they are not one's own. To exercise personal autonomy, we need not abandon who we are and suddenly take a god's eye view. There is no autonomy without some preservation of oneself. Autonomy means being open-minded, but it also means to have a level of doxastic conservatism proportionate to the degree of care one has taken in forming one's belief.

This leads us to an interesting question: "Can *X* be critical thinkers?" where *X* is '*the religious*', '*the conspiracy theorists*', '*alternative medicine proponents*', and any of the other usual categories of people that draw fire from sceptic societies for their irrationality.³⁶ Harvey Siegel identifies the impact of indoctrination on autonomy:

If I have been indoctrinated, and so have developed or had fostered in me a non-evidential style of belief, I have been significantly harmed. My autonomy has been dramatically compromised, for I do not have the ability to settle impartially questions of concern to me on the basis of a reasoned consideration of the matter at hand. I am in an important sense the prisoner of my convictions, for I cannot decide whether my convictions ought to be what they are, and I am unable to alter them for good reasons, even if there are good reasons for altering them. Indeed, lacking the disposition to seek reasons, I am doomed to an unawareness of the desirability of aligning my beliefs and actions with the weight of relevant evidence. Consequently, my life is limited; options with respect to belief and action—and indeed of basic aspects of my lifestyle and beliefs about the worthwhile life (if I have any)—are forever closed to me, due to my predisposition against the contemplation both of challenges to my unreasoned but presently held convictions and of alternatives to them. I have been trapped in a set of beliefs I can neither escape nor even question; this is how my options, and my autonomy, have been limited. I have been shackled, and denied the right to determine, insofar as I am able, my own future. In being indoctrinated, I have been placed in a kind of cognitive straightjacket, in that my cognitive movements have been severely restricted. Worse, like the typical straightjacketed person, I have also been sedated—drugged—so that I don't even realize my restricted plight. Such a

³⁶ Jim Mackenzie amusingly puts it:

It is generally thought desirable that citizens should be able to think critically; a rough measure of the quality of education in a community is that it is inversely proportional to the sales of von Däniken's works. In this respect there is reason to be concerned that our education systems are not doing very well. Jim Mackenzie, "On Teaching Critical Thinking," *Educational Philosophy and Theory*, 1991, 56–78., 56.

limited life cannot be what we desire for our children, any more than we desire it for ourselves.³⁷

More specifically, Sharon Bailin describes religiosity as antithetical to the critical thinking project:

... the value of critical thinking does seem to be an issue of dispute in contemporary society. Indeed, a flight from reason is evident in many ways, from the spread of religious fundamentalism to the proliferation of new age philosophy.³⁸

Furthermore, Stefan Cuypers suggests that critical thinking is opposed to some sorts of ideologies:

... the enlightenment ideal of liberty is to live according to one's rational knowledge, in contrast with living according to inarticulate custom and habit, suffocating ideology or religious taboo. In the same vein, critical thinking is independent thinking, free from external pressures.³⁹

Our view of autonomy does not require perfection but rather the exercise of the critical thinking virtues in response to reasons, and this response requires interpretation in the light of salient reasons one has encountered in the past. A new convert to a religion who fails to be wary of the seemingly-convincing deceptions of others, who fails to notice her own propensity to wishful thinking about the promise of an afterlife, and who is un-conscientious in seeking out the relevant counterarguments to the arguments put to her, is clearly not a critical thinker. This should come as no surprise, as one who buys a house while failing to be *wary*, *self-aware* and *conscientious* is also not a candidate for critical thinking; neither would someone who abandons their religion without *wariness*, *self-awareness* or *conscientiousness*.

Furthermore, the person who believes in religion simply for the reason that it is what he were taught to believe by their parents, has left the matter to the luck surrounding his birth.

Bertrand Russell accuses Kant of this type of heteronomy:

You all know, of course, that there used to be in the old days three intellectual arguments for the existence of God, all of which were disposed of by Immanuel Kant in the *Critique of Pure*

³⁷ Siegel, *Educating Reason: Rationality, Critical Thinking and Education*., 88.

³⁸ Sharon Bailin, "The Problem with Percy: Epistemology, Understanding and Critical Thinking," *Informal Logic* 19, no. 2 (1999): 161–70., 169.

³⁹ Stefaan E. Cuypers, "Critical Thinking, Autonomy and Practical Reason," *Journal of Philosophy of Education* 38, no. 1 (February 2004): 75–90., 79.

Reason; but no sooner had he disposed of those arguments than he invented a new one, a moral argument, and that quite convinced him. He was like many people: in intellectual matters he was skeptical, but in moral matters he believed implicitly in the maxims that he had imbibed at his mother's knee. That illustrates what the psychoanalysts so much emphasize—the immensely stronger hold upon us that our very early associations have than those of later times.⁴⁰

However, if someone has an entire history of belief in a religion and meets an argument against it, as long as he does not ignore it, or attempt to square it with respect to his previous beliefs in a manner that is *un-conscientious* or *self-aware* of his weaknesses, then he may well deserve the title of critical thinker—his parents may have, after all, been right, and the virtues of critical thinking may reveal this. Others may claim that this sort of activity by the religious person is vicious apologetics; that, to be a critical thinker, he would need to reject his core tenets, rather than engage in a creative introduction of complicating premises that allow for his core tenets and his disconfirming evidence to coexist. Richard Paul expresses concern for these cases; that teaching critical thinking as merely a set of skills can actually make people less likely to overthrow their beliefs, as they now have a sophisticated set of skills with which to rationalise their biases.⁴¹ However, although this is a risk, there is a more optimistic alternative view found in Toulmin, Rieke and Janik:

[Upon moving to university, i]f a roommate challenges one of [your religious beliefs], we may find that we have no very solid reasons to offer in its support—we have never had, before now, to go beyond the fact that “everybody believes it.” Since our roommate will find this statement neither true nor sufficient, we shall need other reasons that may not be readily available. The result, according to the social psychologists, is that we are liable either to abandon the position rather quickly for lack of appropriate reasons or to fall back on some inflexibly dogmatic position. If we want to hold on to the beliefs in a critically defensible way, we must now provide ourselves with “reasons” of a new kind, more appropriate to this time and context. In fact (the psychologists suggest), a suitable process of “inoculation,” by which we expose our most cherished ideas to systematic attack and begin on the task of building up a more adequate body of reasons in advance of a serious challenge, may allow us to develop our own critical faculties in a way that prepares us to deal more robustly with future attacks on our beliefs.⁴²

⁴⁰ Bertrand Russell, “Why I Am Not a Christian,” in *Why I Am Not a Christian: And Other Essays on Religion and Related Subjects*, ed. Paul Edwards (New York: Touchstone, 1967). 11-12.

⁴¹ Richard Paul, “Teaching Critical Thinking in the ‘Strong’ Sense: A Focus on Self-Deception, World Views, and a Dialectical Mode of Analysis,” *Informal Logic* 4, no. 2 (1984): 2–7., 3.

⁴² Stephen E Toulmin, Richard Rieke, and Allan Janik, *An Introduction to Reasoning* (New York, New York: Macmillan Publishing Co., Inc., 1979)., 10-11.

Practically, there might not be an easy way to differentiate vicious apologetics from virtuous investigation and justification; indeed, a great deal of argument consists of accusing one's opponent of doing the former and proving that one is doing the latter. Similarly, there might not be an easy way to differentiate vicious premature-overthrows of long-held beliefs and virtuous awakenings from dogmatic slumbers. However, when wanting one's worldview to be confirmed, there is a difference between bias and rational response to reasons; a person is not biased if she updates her worldview in response to reasons through exercise of the critical thinking virtues. The virtues of critical thinking include how one manages the reasons one already has and how to encounter new reasons.

A critical thinking response to the evidence of the age of the earth will be different for the Christian fundamentalist and the secularist. The question remains, at which point does a belief disqualify one from being a critical thinker? A straightforward answer is any in which the belief precludes one from the exercise of the critical thinking virtues. Explicitly, this is obvious: if belief in a fundamentalist version of a religion denies people the ability to be open-minded, or to conscientiously question certain tenets, then this would also preclude them from being critical thinkers. Brighouse argues that 'autonomy with respect to one's religious and moral commitments requires exposure to alternative views'; thus if one shuts oneself off from these views, one cannot be taken to be autonomous.⁴³ Philip Henry Gosse's infamous response to the evidence that the world is much older than is suggested by the Old Testament is a less-explicit example. Accommodating this evidence with the hypothesis that God created the world with the appearance of being old, does not demonstrate a form of unquestioning belief *explicitly*, but it does so *implicitly*. Gosse has intelligently found a compatible accommodation of the appearance the earth is old with his beliefs that it is young—and to some extent this is compatible with the virtues of critical thinking—but he fails to be *conscientious*, as his hypothesis shows he is more concerned with protecting his belief than finding the truth.

⁴³ Brighouse, *On Education*., 24.

Although Gosse appears to have not ‘shut himself off’ by attending to evidence that would refute his belief, on closer inspection he has done this in a way that shows he has shut himself off from the possibility it could refute his belief. A fully *conscientious* person would realise that the sheer implausibility of his hypothesis means that if one accepts it, one would accept almost any other hypothesis in the name of protecting one’s belief. In this sense, the belief is not being merely protected, it is held unfalsifiably—a behaviour which under normal circumstances would not lead to intellectual autonomy. This also follows for any of the *Xs* previously mentioned: if a conspiracy theorist believes with unquestioning commitment that 9/11 was an inside job, and every piece of evidence to the contrary is creatively accommodated to the point where there is no possible evidence that could refute his belief, then he is not a critical thinker as he fails to be both *self-aware* and *conscientious*.

Thus far the analysis has been mainly focussed on empirical matters, and conditions under which an agent may exercise conservatism of belief in virtuous or non-virtuous ways. However, axiological matters require a special mention, as, typically, one’s values are held more closely and are thought of to be a more important part of one’s identity than one’s empirical beliefs. Does this suggest that integrity differs in type between axiological and empirical matters? Scherkoske holds that this is not the case:

If we understand integrity as a virtue of epistemic agency—as an excellence of the myriad ways in which people form, revise and express their convictions—then there is no need to posit distinct types of integrity. Integrity is a virtue of epistemic agency as it is manifest in judgement. There is no need to wonder what, if anything, is common to *personal, moral, artistic, political, intellectual, professional* and other kinds of integrity. Integrity has to do with the manner in which a person’s moral commitments are acquired, maintained, revised and expressed. In moral contexts, integrity is expressed in the way a person develops from being a passive recipient of moral testimony and training to being a morally competent, emotionally perceptive judge of ethical requirements and their application. This view of integrity handles moral convictions no differently than aesthetic, prudential or empirical beliefs.⁴⁴

Different types of integrity are not necessary for different types of conviction, even though the critical thinking response to an opponent’s rejection of one’s empirical belief will differ from the critical thinking response to an opponent’s rejection of one’s axiological belief. However,

⁴⁴ Scherkoske, *Integrity and the Virtues of Reason.*, 139-140.

this difference in response is unsurprising, as the appropriateness of response is determined by context. An empirical matter of life or death will warrant a different type of response than an empirically unimportant matter. The alternative-medicine practitioner will find an attack on the efficacy of their craft more painful than the person with little to no beliefs on the matter, as he derives more of his identity (and income) from this belief. Axiological commitments, such as that one should not eat meat, or that it is wrong for the government to provide healthcare, may lend themselves to being more deeply-held than empirical beliefs, and may often find themselves as more central to one's identity. Indeed, the more one derives one's identity from a belief, be it axiological or empirical, the more careful one must be to maintain one's autonomy—at the least, one needs to ensure that the strength of one's belief is not unfairly distorting one's appraisal of evidence. We have pet beliefs as well as pet values, and it is partly through conservatism of these that we derive our identity. However, for it to contribute to autonomy, this conservatism must be formed, maintained, and updated through the use of the critical thinking virtues, and these virtues are sensitive to context.

The virtuous conservatism of belief as a part of autonomy alerts us to the fact that creation, revision and exchange of convictions occur in an environment in which established convictions already exist. True impartiality is probably quite rare. If one is put in a situation in which one's values are being challenged, it may be more difficult to step outside one's view and blindly assess its merits. Autonomous people will not assess the position as though they have no belief; though, to benefit from a clear view, they may conscientiously follow the steps one would follow if one did not have a belief, paying close attention to possible pitfalls of bias and blind spots in their self-awareness. There is a difference in proceeding with an examination of relative merits in an impartial way and being truly impartial. We admire judges who are impartial in their processes, applications of the law, and judgements even if we know them to be personally biased—it may even follow that we admire their impartial conduct *more* if we also know them to not be privately impartial.

In many cases, doxastic conservatism may lead someone to hold their beliefs, confident that they were formed with good epistemic practices, until an external challenge gives her reason to change her mind. This may occur if a contradiction in her beliefs is identified, or if her beliefs are shown to lead to unacceptable consequences, or to be internally inconsistent. Scherkoske argues that the appropriate response when facing a challenge from an ‘epistemic peer’—one who has access to the same evidence and is equally careful when forming beliefs, but has reached a different conclusion or opinion—is to either suspend judgement, or ‘revise downward the confidence you have in the judgement.’⁴⁵

The virtue of integrity in the sense of being appropriately doxastically conservative supervenes on the virtuous response to reasons insofar as it is contributive to intellectual autonomy. The virtues of critical thinking express or capture the right kind of responsiveness to reasons. We are not trying to describe a perfect logical machine, but a person who obtains intellectual autonomy through exercising virtues, and persons come complete with a history of epistemic activity and established beliefs and values. That means that a measure of doxastic conservatism is essential, as it describes a response to reasons as an updating of the reasons one has already encountered and a trust in one’s past epistemic processes. The virtue of *self-awareness* involves recognising one’s propensities to dogmatism and tendencies to doxastic weakness. The virtue of *conscientiousness* involves attending to past reasons and ensuring that interpretation of new evidence is not unduly distorted by previous experience. However, the remaining component of integrity mentioned at the beginning of this section, being *true to others*, is not necessary for intellectual autonomy. We can easily imagine a lawyer who is a good critical thinker but who is also regularly dishonest; she is diligent in her acquisition of information, she is not being fooled by anyone, including herself, but she often uses her skills of deception to mislead others and trick them into believing things that are untrue. Passmore

⁴⁵ Ibid., 122. Scherkoske also notes that of course not all challenges will arise from epistemic peers, so in cases in which one has a superiority to others, their challenges should have less of a power to ‘unsettle one’s confidence.’ Ibid., 123.

would argue that the lawyer is not misusing the *critical spirit*, but rather misusing her critical skills—stronger still, that she does not *have* the *critical spirit*, since the *critical spirit*, according to Passmore, is something that cannot be misused.⁴⁶ However, Passmore’s *critical spirit* conflates critical thinking with intellectual integrity. Indeed, the lawyer may fail in other aspects of intellectual life, such as in her duty to the truth; however, she has not failed to be a critical thinker. There is nothing in the concept of intellectual autonomy that demands for its achievement that one not stand in the road of others achieving their own. One may be a terrible person by doing so, but one would be terrible in a particular way.

4.5 Conclusion

In this chapter, by differentiating types of intellectual pursuits, I have shown that a great deal of what counts as excellent practice in the competitive pursuit of science and cooperative communities of inquiry are unrelated—and at points opposed—to the goals of critical thinking. The differences are best explained by the fact that scientists and members of communities of inquiry are working in different environments to the critical thinker; one is searching for epistemic success in a competitive environment, another is looking for success in a cooperative environment, and the critical thinker is looking for best personal belief. The search for best personal belief requires the establishment of intellectual autonomy. The establishment of intellectual autonomy requires achieving the aims of three key virtues: *self-awareness*, *conscientiousness*, and *prudent wariness*. Some virtues supervene on this list; for example, open-mindedness (insofar as it is necessary for the establishment of intellectual autonomy) supervenes on the achievement of *conscientiousness* and *self-awareness*; and the doxastically conservative component of integrity supervenes on *self-awareness*. Some virtues are non-constitutive, but regulatory in the achievement of intellectual autonomy: politeness and honesty are examples of such virtues—these are sometimes necessary, most of the time conducive, and sometimes opposed to the goals of critical thinking. Critical thinking is a good

⁴⁶ Passmore, “On Teaching to Be Critical.”, and see my previous discussion in 1.2.

thing, but it is not the only good thing. With a clearer account of what critical thinking is—and is not—we can better understand how to teach it to our students.

5. Theoretical Implications of a Virtue Epistemic Approach to Critical

Thinking

This chapter will outline the theoretical implications of the virtue epistemic approach to critical thinking. I have argued that act-centred critical thinking definitions have conflated critical thinking with good thinking. Good thinking in science differs from good thinking in, for example, law and journalism; the virtues are different and the practices are different. I have argued that the critical thinker is one who has the critical thinking virtues of self-awareness, prudent wariness, and conscientiousness. The external aims of each of these virtues are not being fooled in specific ways, and their achievement is constitutive of intellectual autonomy. In this chapter I compare this agent-based, teleological approach to critical thinking with the *idealistic* conception offered by Richard Paul, and the *act-based* approach offered by Robert Ennis.

I argue that the portrait of the fully-virtuous, ideal critical thinker provides an unrealistic and unhelpful aim. Certain moral virtues are irrelevant—and sometimes opposed—to certain intellectual pursuits. The ideally virtuous person does not provide a suitable aim in non-ideal contexts. In situations where there is a division of intellectual labour, or where one must operate with imperfect information alongside imperfect others, intellectual autonomy provides a more appropriate aim than perfection. I revisit the lists of dispositions and skills from chapter 1 and show that the agent-based account offered by the virtue epistemic conception of critical thinking provides greater clarity and order. The teleological conception of critical thinking, and the limiting of the critical thinking virtues to the three that contribute to intellectual autonomy, provides a powerful alternative to an open-ended, act-based approach in which critical thinking is described as wholly-satisfactory reason responsiveness. The act-based approaches that dominate the critical thinking literature are too broad, and their open-ended nature generates cumbersome and incoherent lists of dispositions and skills that must include contradictory and loosely-attached items to achieve completeness. What distinguishes

my account of critical thinking from others, such as those offered by Ennis, is that it provides an ordered discipline that is best articulated from a clear teleological account of the practice. Some critical thinking theorists have been trying to make sense of what I claim is a virtue-theoretic concept, so I argue that the best conceptions have been those that have been closest to offering the conception in virtue-theoretic terms, for example, those offered by Sharon Bailin and Mark Battersby, Harvey Siegel, and John Passmore.

Finally, I turn to the question of whether the critical thinking virtues are always good to have. Extant conceptions of critical thinking have been preoccupied with concern about its misuse. Moral virtues and dispositions have been added to mitigate the harmful effects that may flow from those who misapply critical thinking. I argue that the critical thinking virtues are always good to have as they increase their possessor's personal intellectual worth. Those with virtues have increased capacities, and these capacities may be used to do harm; however, I argue that this is a misuse of skills, rather than a misuse of virtue. The preoccupation with harm has led some conceptions of critical thinking to wrongfully undervalue elements of critical thinking which may pose a threats to others, such as scepticism and criticism, and overvalue elements that are non-constitutive of critical thinking, such as honesty and empathy.

5.1 Benefits of a teleological approach

In this section I compare my teleological approach to the *idealistic* conception offered by Paul, and the *act-based* approach offered by Ennis. I argue that full virtue is an inappropriate aim for an imperfect world. A realistic aim is intellectual autonomy, which is able to be approached in imperfect situations. This aim has the added benefit of consolidating lists of skills and dispositions.

5.1.1 A teleological approach is preferable to aspirational idealism

Richard Paul offers one the most influential conceptions of critical thinking that makes use of virtue terminology. However, I think Paul makes two errors by the lights of the virtue theoretic approach offered in this thesis. First, he subscribes to an implausible unity of the virtues thesis,

in that he holds that the virtues of critical thinking he identifies cannot exist without all other virtues; and second, it is through this implausible conception of virtue that he develops the aim of critical thinking as the ideal thinker with full-intellectual virtue. It is my claim that this ideal is unrealistic and unhelpful, and that the aim of intellectual autonomy provides a better goal for people in an imperfect world.

The ideal intellectual agent provides an inadequate teleology as the operation of a fully intellectually-virtuous agent Paul describes requires intellectually perfect contexts. Paul's vision is a vision for people living in an ideal intellectual community, but in the real world, in the competitive world, the problem-solving world, in the economically-fraught world, in the world in which we divide intellectual labour, we do not always want or require people like this. However, even in an imperfect world, intellectual autonomy is still a worthwhile goal. In fact, intellectual autonomy is an important goal precisely *because* we live in a world which is epistemically imperfect; the importance of intellectual autonomy is proportional to the level of epistemic imperfection. Intellectual autonomy is not an important goal for a student in a primary-school mathematics class as there is little room for one to be one's own person in matters of basic arithmetic and geometry, and the risks of a deceptive teacher or polluted sources of information are low. It is not an opportunity for the explicit expression of virtue; indeed the possession of the critical thinking virtues would lead one to not exercise them under such circumstances. Not every moment is an opportunity for courage, and the importance of courage is proportional to danger. I further develop this argument below after addressing Paul's unity of the virtues thesis.

Paul differentiates between 'weak sense' critical thinking (which is characterised by the critical thinking skills *sans* moral integrity), and 'strong sense' critical thinking (which is characterised by the critical thinking skills intermixed with other intellectual and sometimes moral virtues). He offers a picture of the critical thinker in terms of the virtues, and, as mentioned in section 1.7, Paul takes a pessimistic view of any education that is not intimately involved in teaching for the intellectual virtues. For Paul, this includes presumably the

majority of college courses, as ‘the present structure of curricula and teaching not only strongly discourages their development but also strongly encourages their opposites.’¹ He argues that education is failing even our ‘best students’, because

[s]uperficially absorbed content, the inevitable by-product of extensive but shallow coverage, inevitably leads to intellectual arrogance. Such learning discourages intellectual perseverance and confidence in reason. It prevents the recognition of intellectual bad faith. It provides no foundation for intellectual empathy, nor for an intellectual sense of fair play.²

Even the social psychologists behind the *Dunning-Kruger* effect do not offer as bleak an outlook of the pitfalls of minimum instruction as Paul.³ Indeed, one of the benefits of a ‘weak sense’ critical thinking education is that it would at the very least provide one with the skills to appreciate and avoid the slippery slope fallacy. It is at least not clear what perils a shallow but extensive coverage of poetry or algebra pose for our typical undergraduate; it is hard to imagine a renegade mathematician, arrogantly un-empathetic due to the vice-fomenting qualities of an introductory course in calculus. It is understandable that one may wish to stress the importance of a rich education, but since Paul does not provide any evidence or further argument in support of the undesirable consequences of the typical college curriculum, this alarmism seems more to be leading the reader to believe that the moral virtues are inseparable from intellectual pursuits, and, by extension, the intellectual virtues. A far more reasonable position is held by Siegel, who argues that ‘[t]he fostering of virtues generally—and of epistemic virtues in particular—is central to education.’⁴ Others also stress the importance of fostering the virtues without exaggerated rhetoric.⁵

¹ Paul, “Critical Thinking, Moral Integrity, and Citizenship.”, 164.

² Ibid., 164.

³ Dunning et al.’s eponymous Dunning-Kruger effect is that those who are incompetent are more likely to overestimate their ability (due to an ignorance of their ignorance), and experts are more likely to underestimate their ability, partly because of their lack of ignorance and partly because they estimate (incorrectly) that other people are as competent as they are.

David Dunning et al., “Why People Fail to Recognize Their Own Incompetence,” *Current Directions in Psychological Science* 12, no. 3 (June 2003): 83–87.

⁴ Siegel, “Is ‘Education’ a Thick Epistemic Concept?”, 462.

⁵ To name a few: Jason Baehr, “Educating for Intellectual Virtues: From Theory to Practice,” *Journal of Philosophy of Education* 47, no. 2 (May 16, 2013): 248–62; Harvey Siegel, “What (good) Are Thinking Dispositions?”, *Educational Theory* 49, no. 2 (1999): 207–21; Bailin, “The Problem with

Paul subscribes to a strong unity of the virtues thesis: ‘each intellectual (and moral) virtue in turn is richly developed only in conjunction with the others.’⁶ This variety of theory holds that to have one of the virtues, one must have them all. This differs from the weak unity of the virtues thesis that I defend, according to which the relationship between the virtues is at times contingent rather than necessary, and at times the existence of some implies the existence of others.⁷ Paul argues that it is not just the intellectual virtues that are unified, but both moral and intellectual virtues:

Our basic ways of knowing are inseparable from our basic ways of being. How we think reflects who we are. Intellectual and moral virtues or disabilities are intimately interconnected. To cultivate the kind of intellectual independence implied in the concept of strong sense critical thinking, we must recognize the need to foster intellectual (epistemological) humility, courage, integrity, perseverance, empathy, and fairmindedness... The problems of education for fairminded independence of thought, for genuine moral integrity, and for responsible citizenship are not three separate issues but one complex task. If we succeed with one dimension of the problem, we succeed with all. If we fail with one, we fail with all.⁸

Paul’s *mélange* of virtues does not make for conceptual clarity; nor does it help form the basis of a curriculum. Paul argues that teaching critical thinking in a ‘strong sense’ is a ‘necessary

Percy: Epistemology, Understanding and Critical Thinking”; Christopher Winch, “Developing Critical Rationality as a Pedagogical Aim,” *Journal of Philosophy of Education* 38, no. 3 (2004): 467–84.

⁶ Paul, “Critical Thinking, Moral Integrity, and Citizenship.”, 168.

⁷ Van Hooft identifies a *psychological* allure to the unity of the virtues, in that it is difficult to imagine cases in which an agent has one virtue but not others.

I do not believe that this approach of positing a unity of virtues is of much help in the task of understanding what virtue is and of distinguishing one virtue from another. There is, however, an interesting psychological claim that is inherent in this approach: the claim that if a person is virtuous in one area of life then they are likely to be virtuous in other areas of life also. If a person is kind and caring towards those that are close to her, she is likely to be responsive to the needs of strangers as well. And this will give her a keen sense of fairness that might motivate her to act diligently and even courageously if the circumstances demand it, in order to pursue justice for all. Having some virtues very often leads to having others. To put the point negatively, it is difficult (although not impossible) to imagine a person who is selfish and unpleasant in some areas of life but who is kind and considerate in other areas of life. If these observations are correct (and they are empirical claims dependent on support by factual evidence), there would seem to be a psychological unity of the virtues. A virtuous person is likely to exercise a number of different virtues as different situations call for them. Moreover, as we shall see below, the exercise of one virtue very often also involves the exercise of others. But this does not imply that it is not useful to understand the individual virtue terms that we use and to distinguish them from other virtue terms. van Hooft, *Understanding Virtue Ethics.*, 134

⁸ Paul, “Critical Thinking, Moral Integrity, and Citizenship.”, 166.

means to moral integrity and responsible citizenship.’ Therefore, we are no closer to a clearer conception of a critical thinker, but instead understand that, according to Paul, without certain attributes, all critical thinking is guaranteed to be selfish; and only the fair-minded person (and, thus the person with the entire gamut of virtues, since, for Paul, one virtue means all virtues), is unselfish.⁹ What *is* clear about Paul’s conception is that he believes that critical thinking does not exist unless it is either unselfish, or fully virtuous. This conceptions shares similarities to Ennis’ account, in that the ‘ideal’ or the ‘fairminded’ critical thinker is the *real* critical thinker and critical thinking that is not ‘fairminded’ or ‘honest’ is not critical thinking.

The moral and intellectual virtues of the critical person, according to Paul, are as follows:

1. *Intellectual Humility*: Having a consciousness of the limits of one’s knowledge, including a sensitivity to circumstances in which one’s native egocentrism is likely to function self-deceptively; sensitivity to bias, prejudice, and limitations of one’s viewpoint. Intellectual humility depends on recognizing that one should not claim more than one actually knows. It does not imply spinelessness or submissiveness. It implies the lack of intellectual pretentiousness, boastfulness, or conceit, combined with insight into the logical foundations, or lack of such foundations, of one’s beliefs.
2. *Intellectual Courage*: Having a consciousness of the need to face and fairly address ideas, beliefs, or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing. ...
3. *Intellectual Empathy*: Having a consciousness of the need to imaginatively put oneself in the place of others in order to genuinely understand them, which requires the consciousness of our egocentric tendency to identify truth with our immediate perceptions or long-standing thought or belief. ...
4. *Intellectual Good Faith (Integrity)*: Recognition of the need to be true to one’s own thinking; to be consistent in the intellectual standards one applies; to hold one’s self to the same rigorous standards of evidence and proof to which one holds one’s

⁹ Ibid., 170. Paul writes:

Let us now consider the interdependence of these virtues, how hard it is to deeply develop any one of them without also developing the others. Consider intellectual humility. To become aware of the limits of our knowledge we need the *courage* to face our own prejudices and ignorance. To discover our own prejudices in turn we must often *empathize* with and reason within points of view toward which we are hostile. To do this, we must typically *persevere* over a period of time, for learning to empathically enter a point of view against which we are biased takes time and significant effort. That effort will not seem justified unless we have the *faith in reason* to believe we will not be “tainted” or “taken in” by whatever is false or misleading in the opposing viewpoint. Furthermore, merely believing we can survive serious consideration of an “alien” point of view is not enough to motivate most of us to consider them seriously. We must also be motivated by an *intellectual sense of justice*. We must recognize an intellectual *responsibility* to be fair to views we oppose. We must feel obliged to hear them in their strongest form to ensure that we do not condemn them out of our own ignorance or bias. At this point, we come full circle back to where we began: the need for *intellectual humility*.

antagonists; to practice what one advocates for others—and to honestly admit discrepancies and inconsistencies in one’s own thought and action.

5. *Intellectual Perseverance*: Willingness and consciousness of the need to pursue intellectual insights and truths in spite of difficulties, obstacles and frustrations...
6. *Faith in Reason*: Confidence that, in the long run, one’s own higher interests and those of humankind at large will be best served by giving the freest play to reason, by encouraging people to come to their own conclusions by developing their own rational faculties...
7. *Fairmindedness*: Willingness and consciousness of the need to treat all viewpoints alike, without reference to one’s own feelings or vested interests, or the feelings or vested interests of one’s friends, community, or nation, implies adherence to intellectual standards without reference to one’s own advantage or the advantage of one’s group.¹⁰

According to Richard Paul and Linda Elder, the ‘opposites of the intellectual virtues’ (inexplicably evading using the word ‘vices’) are the traits of the undisciplined mind are shown in Figure 3.

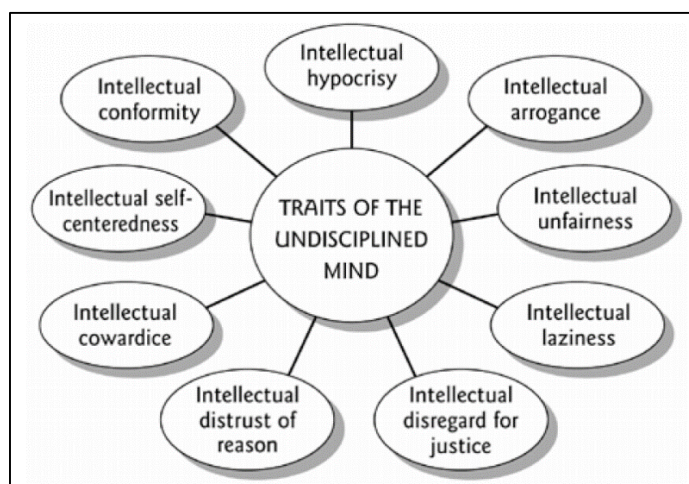


Figure 3: Paul and Elder’s ‘opposites of the intellectual virtues’¹¹

Recall that Paul believes that ‘the present structure of curricula and teaching... encourages [these] opposites.’ Paul argues that the development of his critical thinking virtues ‘is an essential goal of critical thinking instruction.’¹² However, this holism is problematic: these virtues are useful for many intellectual practices, and thus do not adequately describe critical

¹⁰ Ibid. 169-170. (See Appendix 4 for the unabridged list.)

¹¹ Richard Paul and Linda Elder, *Critical Thinking Skills for College Life: Tools for Taking Charge of Your Learning and Your Life*, 2nd ed. (Upper Saddle River, New Jersey: Pearson Education, 2014)., 26.

¹² Paul, “Critical Thinking, Moral Integrity, and Citizenship.”, 168.

thinking. One who is an ideal member of a community of inquiry could well be said to be one who follows Paul's regimen; though the case is not clear for the ideal scientist, who has less use for fairmindedness when pursuing her hypothesis. The intellectual virtues of different practices are obviously closely-allied with each other; an ideal teacher may have many or most of the attributes of the ideal student, but the fact that the ideal teacher is neither necessarily the ideal student, the ideal scientist, nor the ideal critical thinker shows that there are differences in the core constitutive virtues of each practice. Furthermore, different practices place different importance on different virtues; the ideal detective and the ideal social-worker may both require the virtue of conscientiousness in getting to the bottom of a 'case', but the detective can get by without the virtue of empathy—or even thrive despite (and, often as a result of) the vices (or 'opposites of intellectual virtues') of arrogance or insensitivity.¹³ Providing an inflated description of critical thinking with the core constitutive virtues intermixed with all other virtues leaves the key excellences of the practice of critical thinking ill-defined.

Specifically, components of Paul's *intellectual humility* are unnecessary for critical thinking, as are components of his *intellectual good faith*. The requirements to not be pretentious, boastful or conceited; to honestly admit inconsistencies in one's actions; and to practice what one advocates for others are not necessary for the critical thinker. By our formulation, these are regulatory virtues as at best they are causally-influential in the practice of critical thinking; they are not constitutive of it. Paul's *fairmindedness* is unrealistic and his *intellectual empathy* is unjustifiably cynical. As shown in the previous chapter, a well-placed self-trust in one's previous decisions and decision-making processes implies the unfeasibility in engaging an issue from a fully-neutral standpoint. A requirement of full impartiality is antithetical to the maintenance of intellectual autonomy, thus antithetical to the goals of critical thinking. A well-placed self-trust need not be egocentric or selfish, and long-held beliefs are not necessarily a source of bias.

¹³ Conan-Doyle's Sherlock Holmes and the more recent Saga Norén from the TV Series *The Bridge* provide fitting fictional examples of such detectives.

Not only is it the case that not every one of Paul's virtues are necessary for critical thinking, his picture of a fully intellectually-virtuous person makes for an unrealistic aim. As I have argued in previous chapters, full intellectual virtue is inappropriate in many contexts. It is not only that some virtues are more relevant depending on context, but that some virtues are opposed to the achievement of certain intellectual pursuits. Having full intellectual virtue is good for certain practices, but not others. The fully-virtuous person Paul describes is not necessarily an aim for every context, as in some situations, the fully-virtuous person would be ineffective. This person would not be one's first choice as a lawyer to acquit one of a murder charge, nor would he be the best person to seek for a cure for a terrible disease. We want a Philip Marlowe type to help us solve a case of attempted blackmail, even if he is at many times incapable of intellectual fairmindedness and humility—in fact, we may want his help precisely for his unique combination of vices and virtues. We do not admire those who are intellectually empathetic towards those who do not deserve empathy and empathy misapplied in these situations does not increase personal worth. We do not admire scientists who give equal time to alternative hypotheses—we admire those who strive to advance their own with the knowledge that others are doing the same with theirs.

Paul's characterisation of the fully-virtuous critical thinker is not tied to a set of valuable—or realistic—practices. Paul's ideal critical thinker suits an ideal intellectual situation, his virtues are exactly those that would suit a supportive, inclusive and community of inquiry made up of other ideal critical thinkers; in perfectly uncomplicated epistemic circumstances, surrounded by other perfect and happy participants who have no biases or hidden motives. In a non-ideal world, however, it is not helpful to set standards at this height, as at the very least, we know that not everybody else will reach them. The advantages of the teleological conception I advance, is that it is suitable for a non-ideal world as it is focussed on a goal of intellectual autonomy. This goal is generally achievable to a certain extent, and always adds to personal worth; personal intellectual worth is achievable insofar as the context allows for intellectual autonomy.

I have argued that critical thinking aims at establishing intellectual autonomy, whereas Paul provides an aspirational picture of the ideal: for Paul, being a critical thinker is to have all of the intellectual (and some moral) virtues. Instead of imagining every intellectually-admirable quality, and then building a picture of the exemplar of all of these virtues, it is better to first consider the practice. Different intellectual practices have different goals and virtues are tied to what is conducive to these goals. Autonomy is one of these goals, but being fully virtuous is not. The design of an ideal thinker for an ideal world that does not exist, furthermore, has less pedagogical use—we do not want to teach students to be perfect, what we want is to teach them to be their own person. In the real world, autonomy is a better aim than perfection. Paul's position regarding the unity of the virtues can be interpreted as a concern for the misuse of critical thinking virtues. This is a concern which also appears in the act-based conception offered by Ennis, which I address below.

5.1.2 A teleological approach is preferable to act-based conceptions

Many influential critical thinking conceptions have hitherto produced lists of skills and dispositions which describe critical thinking, or build up the concept of the critical thinker out of competencies and attributes. In section 1.7.1, I argued that this act-based approach is ineffective on two main grounds: there is little coherence or coordination between these items; and building up a picture of a type of person with lists of dispositions is bound to be either incomplete or circular. The correct level of analysis is provided by an agent-based, teleological approach with the target of critical thinking being intellectual autonomy, the intellectual independence that one achieves by seeking out adequate evidence and by successfully not being fooled either by oneself or others. This approach is stronger than simply compiling a list of all of the different intellectual attributes that appear valuable in any encounter with reasons; critical thinking needs to be demarcated from other intellectual accomplishments. In this section, I return to some influential critical thinking conceptions to show the benefits of an agent-based, teleological approach.

In section 1.1.1 we encountered Ennis' lists of critical thinking dispositions and skills.

Ennis argues that

Ideal critical thinkers are disposed to:

1. Care that their beliefs be true, and that their decisions be justified; that is, care to 'get it right' to the extent possible, or at least care to do the best they can. This includes the interrelated dispositions to do the following:
 - a. Seek alternatives (hypotheses, explanations, conclusions, plans, sources), and be open to them
 - b. Endorse a position to the extent that, but only to the extent that, it is justified by the information that is available
 - c. Be well-informed
 - d. Seriously consider points of view other than their own
2. Represent a position honestly and clearly (theirs as well as others'). This includes the dispositions to do the following:
 - a. Be clear about the intended meaning of what is said, written, or otherwise communicated, seeking as much precision as the situation requires
 - b. Determine, and maintain focus on, the conclusion or question
 - c. Seek and offer reasons
 - d. Take into account the total situation
3. Be reflectively aware of their own basic beliefs
4. Care about the dignity and worth of every person. This includes the dispositions to:
 - a. Discover and listen to others' view and reasons
 - b. Take into account others' feelings and level of understanding, avoiding intimidating or confusing others with their critical thinking prowess
 - c. Be concerned about others' welfare.¹⁴

Items 1 *Care that their beliefs be true, and that their decisions be justified* and 3 *Be reflectively aware of their own basic beliefs* from Ennis' conception clearly are commensurate with the virtues of conscientiousness and self-awareness. However, Ennis has missed the virtue of prudent-wariness: none of his dispositions involve a concern for those who seek to impinge on one's autonomy with poor arguments or trickery. This is a perplexing omission; instead of being wary to avoid the bad or misleading arguments of others, Ennis has his dispositions of the critical thinker overly concerned with *not deceiving anyone else*. Dispositions 2 *Represent a position honestly and clearly (theirs as well as others')* and, particularly, 4 *Care about the dignity and worth of every person* are admirable traits: they are covered in the list of regulative virtues of critical thinking, and they are certainly components of good behaviour in terms of the social exchange of reasons; however, they are not components of critical thinking. If one wants to stress the point that one is morally obligated to behave with a mind to others, and that

¹⁴ Ennis, "Critical Thinking Dispositions: Their Nature and Assessability.", 171 (Ennis' *abilities* appear in full in 1.1.1).

there are certain pitfalls one can fall into while exercising one's critical thinking powers (for example: arrogance, sophistry, dishonesty, ignorance, intimidation, and so on), then this is certainly a valid thing to do. It is not of value to add these to the dispositions of critical thinking on the basis that they are good behaviours. One may respond to this criticism by noting that Ennis is describing the *ideal* critical thinker. In citing components which differentiate the honest critical thinker and dishonest critical thinker, Ennis might be specifying what it takes for someone to be an ideal critical thinker. One might also argue that the friendly critical thinker is more ideal than the unfriendly one, just as the physically-fit critical thinker is more ideal than the critical thinker who maintains an unhealthy lifestyle. However, this approach does more to define 'ideal' than it does 'critical thinking'. It is neither useful for conceptual clarity nor does it distinguish between the *ideal* thinker *simpliciter*, the *ideal* scientist, or the *ideal* member of a community of inquiry.

Ennis explains why he has introduced these additional dispositions to his list of critical thinking dispositions and skills in terms of harm. Without them, critical thinking can become useless or 'harmful':

The disposition to care about the dignity and worth of every person is not required of critical thinking by definition, but in order that it be humane. I call it a "correlative disposition," by which I mean one that, although not part of the definition of critical thinking, is desirable for all critical thinkers to have, and the lack of which makes the critical thinking less valuable, perhaps of no value at all, perhaps even harmful. ...

A criticism of critical thinking for a definitional omission of caring for the worth and dignity of every person could well be based on the unreasonable assumption that the concept, critical thinking, should represent everything that is good, an overwhelming requirement indeed. On the other hand, any educational program that includes critical thinking but not the correlative disposition to care about every person's worth and dignity would be deficient and perhaps dangerous. The power of critical thinking unaccompanied by this correlative disposition could lead to serious trouble.¹⁵

Ennis is therefore running together in his characterisation of critical thinking attributes he regards as definitional of critical thinking and attributes that he thinks make critical thinking attributes worth having. What Ennis is providing, is a moral argument for an extended characterisation of critical thinking. An unhealthy critical thinker is not dangerous in the way

¹⁵ Ibid., 171-172.

in which one who does not care about the dignity of people might be, and we do not want to inadvertently turn our students into villains by sending them out into the world with a set of sophisticated skills and a propensity to misuse them. It seems that Ennis is worried about the danger of strengthening the argumentative or rhetorical skills of people who may then go out and convince people on spurious grounds to believe or do bad things. A person who wins arguments they have no right to win could well be dangerous for this reason; however, the concept of critical thinking I am advancing is not about winning arguments, but is instead about the achievement and maintenance of intellectual autonomy. Intellectual autonomy is a valuable aim—it is not the only valuable aim, but it is also not a danger; somebody who has conscientiousness, self-awareness and prudent wariness is not necessarily a master rhetorician. She may have negative qualities, but this does not undermine the value of her critical thinking virtues. In fact, there is good reason to believe that the achievement of the critical thinking virtues at least is contingently tied to the achievement of other virtues. One who is virtuously conscientious, prudently wary, and self-aware has many excellent powers which make them more likely to believe and do well than someone without these powers. In short, the untutored amplification of skills may be dangerous or worthless, but the amplification of virtues is not.

An analogy may be helpful here to illustrate the distinction between Ennis' approach and the one I offer. In the interest of personal safety, a university might introduce a self-defence course. One might argue that proper teaching of students to handle weapons or identify weak-spots in an attacker requires imparting both the skills and dispositions to not use them in a way that puts themselves or others at risk of harm—we would obviously not want to *only* drill students in kneeing groins and striking at jugulars. However, were we to develop an agent-based, teleological account of the virtues of self-defence, physical integrity and safety would be the *telos* and obtaining that *telos* would require the establishment and maintenance of a set of virtues—say, for example, *carefulness*, *tenacity*, *vigilance* and *courage*. Their establishment is of value in that their possession adds to personal worth; these virtues in themselves do not pose any dangers. Some *skills* may be useful for the achievement of these goals—and weapon-

handling may be one of them—but as this would be learned with a mind to the establishment of personal security, it would come along with the propensity not to put oneself at risk. A self-defence course may need added instruction to capture the ‘do-not-unnecessarily-put-others-at-risk’ behaviours we would want from someone who knows how to skilfully weaponise an iPhone. There is nothing problematic about this. A good self-defence course may, if necessary, teach more than self-defence; it may teach ethics as well. But it should be clear that the two are distinct.

The same thinking applies to critical thinking courses. A good critical thinking course will probably alert students to the value of being fair and cooperative with others, but this is achieving a separate goal than intellectual autonomy. It might be Ennis has caught himself adding the caveat of ‘proper use’ to his account of the dispositions of a critical thinker because of his propensity to set up these lists of skills and dispositions which include items that could be dangerous in the hands of an ill-motivated person. However, a virtue-theoretic approach to critical thinking ameliorates this problem.

Early definitions of critical thinking were criticised for focussing too much on skills, which are useless if not applied and dangerous if misapplied. Critical thinking dispositions were added to solve both of these concerns. However, my conception can be employed to draw out the distinction between dispositions *as motivation to act*, dispositions *as being for the good of the virtue*, and dispositions *as being for the good as a whole*. The shift in Ennis’ early dispositions, which clearly were dispositions as motivations to use critical thinking skills, towards those that include those that are moral can be seen in Table 7.

Table 7: Summary of Ennis’ 1987 and 1996 critical thinking dispositions

1987 ¹⁶	1996 ¹⁷
1. Seek a clear statement of the thesis or question	1. Care that their beliefs be true, and that their decisions be justified; that is, care to ‘get it right’ to the extent possible, or at least care to do the best they can.
2. Seek reasons	
3. Try to be well informed	
4. Use and mention credible sources	
5. Take into account the total situation	

¹⁶ Ennis, “A Taxonomy of Critical Thinking Abilities and Dispositions.”

¹⁷ Ennis, “Critical Thinking Dispositions: Their Nature and Assessability.”, 165-182.

- | | |
|---|---|
| 6. Try to remain relevant to the main point | 2. Represent a position honestly and clearly (theirs as well as others’). |
| 7. Keep in mind the original and/or basic concern | |
| 8. Look for alternatives | |
| 9. Be open-minded | 3. Care about the dignity and worth of every person. |
| 10. Take a position (and change a position) when the evidence and reasons are sufficient to do so | |
| 11. Seek as much precision as the subject permits | |
| 12. Deal in an orderly manner with the parts of a complex whole | |
| 13. Use one’s critical thinking abilities | |
| 14. Be sensitive to the feelings, level of knowledge, and degree of sophistication of others | |
-

The issues with dispositions that aim towards the moral have been discussed. Ennis’ 1996 disposition #1 is closest to the type of excellence in being for the good that I am advancing, as it would be similar to the type of motivation that underlies the critical thinking virtues of conscientiousness, self-awareness and prudent wariness. However, critical thinking can and does occur without honesty and without ensuring dignity is preserved. A virtue approach simplifies matters—it is coordinated with success, so accounts for the motivation to act, and the action must be towards the good of the virtue, so accounts for right motivation—but it does not go as far as having the motivation towards aims unrelated to critical thinking.

A further benefit from the teleological, agent-based approach I defend is that it affords rich guidance as to how the characteristics of critical thinkers should operate and interact with each other. For example, Ennis’s item *1(d) Seriously consider points of view other than their own* does not give any clear idea to what extent one should seriously consider other views. Clearly, there must be a minimum of serious consideration of others’ views, but one should not seriously consider the views of others if they are of a type that should not be seriously considered. It is unclear which conditions should trigger this disposition, and what exactly is meant by ‘serious’. What are missing (although the qualificatory ‘serious’ gestures towards this) are appropriateness-conditions for the exercise of critical thinking dispositions and these are best provided by the conceptions of the end of the virtue. In a teleological conception of critical thinking, the value of the serious consideration of others’ views is contained in the virtue of conscientiousness, and conscientiousness is virtuous only insofar as it establishes

personal autonomy. This provides a simpler way of dealing with potential counterexamples that can be directed towards lists of dispositions.

A teleological conception of critical thinking with the aim of intellectual autonomy has several advantages to act-based conceptions, such as offered by Ennis, and those that aim towards the ideal of full intellectual virtue, such as offered by Paul. The addition of moral virtues or dispositions to the concept of critical thinking leads to confusion. If the aim of the critical thinker is to reach ideal virtue, then this does not distinguish critical thinking from any other intellectual activity. A concern of the misuse of critical thinking skills has led to the addition of supervisory moral dispositions and virtues, which steer the skills away from core critical thinking activities of sceptical analysis and criticism. This is an overreaction. With a clear aim of establishing intellectual autonomy, worries whether critical thinking is dangerous, immoral, or harmful dissipate—harm and immorality are separate concerns. Paul's concern is with the misuse of virtues, or the worthlessness of some virtues if others—or all—are not present. In the next section, I argue with respect to Passmore and Siegel's accounts of the critical spirit that the worry of the misuse of virtue proves to be misplaced.

5.2 Can the critical thinking virtues be misused?

The previous sections illustrated how certain critical thinking theorists' worry about misuse of critical thinking leads to conceptual confusion and the presentation of unrealistic aims. To address the concern of misuse, Ennis posits non-critical thinking dispositions to oversee the others and the critical thinking skills; and Paul argues that the critical thinking virtues are only instantiated if it is the case that no other moral and intellectual virtues are breached—indeed that all are present. In contrast, Passmore and Siegel's account of the *critical spirit* provides a clear distinction: skills are capable of misuse, but the *critical spirit* cannot be misused. I compare the incapability of misuse of the *critical spirit* to Zagzebski's conception of virtue, and conclude that the virtues are valuable to have in all cases, as their possession always increases personal worth. Intellectual autonomy is a good thing; at least this is what the

Enlightenment tradition tells us—it is a way of being grown up. I argue that the concern of the misuse of critical thinking virtues is misguided; establishing intellectual autonomy is always a valuable endeavour, even if achieving it temporarily results in a net amount of bad belief or action. Unlike some other intellectual goods, intellectual autonomy does not require a conception of the moral, though there is good reason to believe its achievement will increase the chances of the acquisition of other virtues.

Zagzebski, in order to answer ‘the question of whether virtue is always a goodmaking quality of a person (i.e., it makes its possessor admirable)’ provides an example of a courageous Nazi. Due to the fact that the Nazi’s courage would allow him to commit greater evil than if he did not have the virtue, it is tempting to hold that the Nazi is ‘worse overall than if he were cowardly.’¹⁸ Paul clearly has a similar concern; a person would have greater capacity to do worse—or might even *be* worse—if the agent had some of the virtues and not the others. Zagzebski, however, argues that there are several ways to respond to this case: first by denying that the trait of the Nazi is courage; second, by holding that the trait is courage, but not of the virtuous kind; third, by holding that the trait is courage, but also holding that ‘virtues are not goodmaking in every instance’; fourth, and the response that Zagzebski regards as correct, holding that

the [trait] exhibited by the Nazi... [is] courage... and that courage [is] always [a virtue] and... [is] always good to have, but the good-making properties of virtues and the bad-making properties of vices do not always add up arithmetically to yield a rating of the agent’s overall goodness.¹⁹

Zagzebski’s reason for holding this position is that it takes less ‘moral work’ for the courageous Nazi to reach a higher level of ‘moral worth’ than the uncourageous Nazi. Although the courageous Nazi commits more evils than the uncourageous Nazi, and thus the uncourageous Nazi might be closer, arithmetically, in his lack of evil-makings to the

¹⁸ Zagzebski, *Virtues of the Mind*., 91-92.

¹⁹ Ibid., 92.

courageous non-Nazi, the courageous Nazi is closer in terms of *moral work* needed to reach the courageous non-Nazi.

A person with a virtue is closer to becoming a person with a high level of moral worth than he would be if he lacked the virtue, and this is the case even when the virtue makes him morally worse. ... [S]ometimes when a person who is courageous, persevering, and loyal but is also committed to an evil cause is converted and embraces a good end, he excels morally in a very short time. Presumably this is because his courage, perseverance, and loyalty are qualities that make him learn virtuous living more quickly. He may even go from a paradigm of evil to a moral hero very rapidly.²⁰

For Zagzebski, virtues are always valuable to have, even if they make an agent worse overall. In this sense, virtues are capable of ‘misuse’—the courage of the Nazi is used to commit greater evil, but this is a problem with the Nazism rather than the courage. Zagzebski’s claim is that the one virtue is always good even in cases where it amplifies vices, as there is less moral work to do to in order to reach full virtue. I agree with this conclusion, but not on this basis. If virtues are characteristics that increase personal worth, as I have been arguing, then it is unclear how having less work to do provides greater personal worth than having more work. A personal worth conception of virtue, by contrast, provides a clearer rationale: virtues are always good to have, as their possession increases personal worth.

In the previous section, I introduced Paul’s concern of the misuse of some intellectual virtues, if others were not also held. For Paul, critical thinking in the ‘weak sense’ can lead to misuse of critical thinking capacities, and that ‘strong sense’ critical thinking is a better aim. I agree. However, Paul’s claim that ‘... each intellectual (and moral) virtue in turn is richly developed only in conjunction with the others’ suggests that either intellectual virtues are impossible to exist in isolation, or that one is not good to have in isolation.²¹ In contrast, I argue that the critical thinking virtues are always good to have as they always increase one’s personal worth.

The associated skills of critical thinking are quite clearly capable of misuse, whether it be those suggested by Ennis, or those that are acquired to achieve and maintain intellectual

²⁰ Ibid., 94-95.

²¹ Paul, “Critical Thinking, Moral Integrity, and Citizenship.”, 168

autonomy. Indeed, Passmore distinguishes between the skills of the critic and the critical spirit on the grounds that the skills of the critic are capable of misuse: '[A]n expert in the detection of fallacies can use his skill in order to conceal the fallacies in his own case, by drawing attention away from them, rather than in a disinterested attempt to arrive at the truth.'²² However, for Passmore, although '[t]he skills of a judge, or the skills of a critic, can be used or misused; justice or the critical spirit can be neither used nor misused. And this is because neither being just nor being critical is a skill.'²³ A Nazi with the skills of a critic, or the skills of a judge, would have a greater capacity for committing evil than the Nazi without these skills. The unskilled Nazi is far less dangerous. Passmore argues that "[b]eing critical" is, indeed, more like the sort of thing we call a "character trait" than it is like a skill', and his character trait of 'being critical' is to his 'critical spirit' as 'being just' is to 'justice'.²⁴ I contend that Passmore's 'being just' and 'being critical' are actually virtues, and as virtues, they are also capable of misuse in the sense identified by Zagzebski; that they, in the same way but to a lesser extent as courage, have the capacity to amplify vicious qualities of the agent. For Zagzebski, misuse arises if the virtue is instrumental in the achievement of evil; whereas, for Passmore, a virtue cannot be misused, not because the virtue implies it cannot be employed in reaching an evil end, but that it cannot be employed at all—character traits are not 'used' in the way in which skills are 'used'.

Rather than being a virtue, intellectual autonomy is a state worth aiming at and achieving, like health, or happiness. Conceived in this way, intellectual autonomy is not something that can be misused or used in either Zagzebski's or Passmore's sense. Intellectual autonomy, like health, can be attained in the contexts of many other bad things—one who develops physical fitness can perform a higher number of violent acts, in a shorter time and with greater ferocity than someone who tires after one or two. In this sense, the concern of

²² Passmore, "On Teaching to Be Critical.", 28.

²³ Ibid., 28.

²⁴ Ibid., 28.

misuse that Zagzebski addresses and that plagues Ennis and other critical thinking theorists is not a concern for intellectual autonomy.

The critical thinking virtues may be part of the cause of being worse overall, but never the sole cause or primary cause. In the chapter 4 we saw that this can be the case when one of the critical thinking virtues is held without the others; conscientiousness in the absence of self-awareness may lead one to diligently justify a bias. Having all of the critical thinking virtues does not inoculate against all forms of misuse. Consider the intellectually autonomous agent who is under the employ of the oil or tobacco companies. She is self-aware, so capable of successfully identifying her own intellectual weak-points and strengths; she is prudently-wary, so can successfully identify the chicanery of others, and also identify the goals, strengths and weaknesses of others; and she is conscientious, so can successfully gather convincing evidence. The fact that she may do this to promote an agenda she may not agree with does not convert her virtues to vices, nor does it impinge on the worth of these virtues. The acquisition of the virtues that lead to the establishment and maintenance of intellectual autonomy does not rule out the fact of the acquisition of other powers; acquiring the critical thinking virtues may have several effects—some undesirable and some desirable. The critical thinking virtues may make one a great debater, or excellent at writing essays, or selling cars. Some of these side-effects are what are aimed at in the critical thinking courses that focus on improving academic skills and written composition.

The upshot is that someone with the virtues of critical thinking will often be a more formidable intellectual opponent than one without them. If they have an evil purpose, then the effect will not just be that they possess intellectual autonomy, but that they are capable of committing greater evil. However, Passmore's point can still stand. These are not cases in which the virtues of critical thinking are being misused. They are cases in which certain powers that often develop alongside the development of critical thinking virtues are exercised for bad ends. An act of virtuous prudent wariness, for example, must be motivated towards the goods of prudent wariness and be of the kind that would be reliably successful in normal

circumstances. It might be that we prefer Nazis that can be fooled, and a Nazi who is wary is more dangerous than one who is not. However, it is not that the Nazi is misusing his virtue of prudent wariness. Prudent wariness aims at spotting deceptions, and if deceptions are spotted the virtue reaches its internal aim. A Nazi who is good at spotting deception has the power to do greater evil than the imprudent, unwary Nazi. But the power to do greater evil does not arise through a misuse of the virtue.

A person with the critical thinking virtues who does terrible things is still better for having the virtues than not, in that the possession of the critical thinking virtues contributes to personal worth—being better in one respect does not mean being better in every respect. The Nazi with the critical thinking virtues is better than the craven, intellectually-dependent Nazi, all else being equal. The Nazi who uncritically accepts the propaganda of Aryan racial-superiority may behave in the same way in which the Nazi who has independently reached the conclusion that it is right to make economic space for the development of his own race. The actions of both are reprehensible, as are their beliefs, but the Nazi with the critical thinking virtues has a greater personal intellectual worth. The critical thinking virtues certainly do not make them good, and these virtues perhaps would not count as much as they would in another person. I am not making the claim that personal-worth judgements are context-independent. However, it is beyond the scope of this thesis to investigate fully the fine details of the process of assessment of personal worth. Simply, my claim is that the critical thinking virtues contribute to personal worth and they cannot be misused as this would mean they do not reach their internal aims. The critical thinking virtues cannot be misapplied, because if they are being misapplied, then it is not a virtuous act. Skills can be misapplied, and virtues nonetheless give people certain powers which can be misused.

5.3 Conclusion

Through the teleological conception to which I subscribe, I have argued the virtues cannot be misused, though those with the virtues may have the skills to do considerable evil. Virtues will

tend to push in a normative direction, but one virtue does not necessarily mean or require all. Concern over the misuse of skills has led theorists to oversell the requirement for critical thinking to be moral and supportive; it also has led theorists to undersell major aims of critical thinking, which are criticism and defence against others. This underselling and overselling are both mistakes. As I have argued, good thinking varies depending on context, and perfect virtue provides an unrealistic goal. A clearer and more realistic aim for critical thinking is the establishment of intellectual autonomy. This teleological conception has benefits in the practical affair of teaching people. It is not that teachers would walk into a critical thinking classroom and say that they can teach justice or honesty—we want students to be honest and just, but the aim of critical thinking is to think for oneself.

6. Teaching critical thinking

In this chapter, I investigate some ways in which a virtue approach would inform pedagogy. Additionally, I address McPeck's complaint that it is empty to claim that critical thinking can improve thinking. McPeck's complaint dissolves when the *telos* of critical thinking is established; its practice and its excellences become well-defined rather than promises to improve thinking *simpliciter*. There is a growing list of those who wish to see a greater role for the intellectual virtues in education. Baehr, for example, argues that the intellectual virtues should be seen as the main aim of education:

Conceiving of education as properly aimed at nurturing growth in intellectual character virtues provides a much better way of capturing the putative meaning and purpose of teaching and learning. Again, if a teacher is educating for intellectual virtues, his aim will be to mould and shape his students as persons—to impact their fundamental orientation toward epistemic goods and the practices that facilitate these goods.¹

Being clear about the goal of critical thinking, which I identify as intellectual autonomy, allows critical thinking to be more clearly defined and thus more effectively taught. I argue that critical thinking, seen as a set of virtues that have the aim of achieving intellectual autonomy, provides solutions to the critical thinking debate. The critical thinking debate is a debate over whether critical thinking can be taught, which has at its heart a question of transfer. A critical thinking class fails if what is taught in it is never applied outside the class.

In this chapter I also argue that a course in critical thinking might legitimately include materials other than those focused on the virtues of critical thinking. There are other things worth teaching in a critical thinking class, even if the core of the class should centre on the virtues of critical thinking and their *telos*. I have argued that many critical thinking theorists conflate critical thinking with good thinking, or sociable thinking, or encouraging thinking, and this has led to an unclear conception. However, this does not mean that some of these elements cannot be taught alongside critical thinking in a course that bears its name. Many

¹ Baehr, "Educating for Intellectual Virtues: From Theory to Practice.", 253.

lessons, such as in the application of the principle of charity in interpretation, and avoiding making unnecessary *ad hominem* claims, find natural places in a critical thinking course. This is all for the better. In teaching the skills associated with critical thinking, we can be wary of turning students into pedantic nightmares. A good sharpshooting course involves more than simply teaching how to use firearms; a great deal of it should be spent on safety and weapons handling; but the aim of the practice of sharpshooting is not safety, the aim is hitting difficult targets.

I have been arguing that critical thinking is more akin to the virtues of intellectual consumption rather than production. The virtues of intellectual consumption no doubt have elements that aid in production; the critical thinking virtues in general, and conscientiousness in particular, are important elements of creative intellectual activity. Furthermore, once one is not fooling oneself, one's capacity to write coherent, logical, well-structured arguments is greatly enhanced. There are many skills in a critical thinking course which transfer to other intellectual pursuits. Proficiency in formal and informal logic can help students detect mistakes in their own arguments, in the arguments of others, and uncover hidden premises and assumptions. These are skills required to achieve the internal success of the critical thinking virtues, but they are also skills that help students write essays and win debates. Identifying the problems with fallacies such as affirming the consequent, hasty generalisation, or confusion of correlation and cause have applications in a scientific methodology class. Identifying these links to other areas in which the skills can be applied is at least efficient, and at most contributive to the virtues. A student who has seen many instances of application are more likely to form a virtuous habit than those who have very limited experience of the application of critical thinking skills. The development and practice of skills is a necessary component of the critical thinking virtues. With respect to achieving proficiency in detecting fallacies, Richard Whately in his *Elements of Logic* claims

After all, indeed, in the practical detection of each individual Fallacy, much must depend on natural and acquired acuteness; nor can any rules be given, the mere learning of which will enable us to *apply* them with mechanical certainty and readiness: but still we shall find that to

take correct general views of the subject, and to be familiarized with scientific discussions of it, will tend, above all things, to *engender such a habit of mind*, as will best fit us for practice.²

Skills and habits are necessary to achieve the internal success of virtues of critical thinking; but they are not sufficient.³ It may be the case that many courses with the title of critical thinking do not teach much critical thinking at all. Although this reflects a misunderstanding of what critical thinking is, these misnomers are not necessarily a bad thing, as many critical thinking courses have preparing students for academic life as their aim, and *Critical Thinking* makes for a more interesting subject name than does *Academic Skills*. However, although it makes sense to teach other things at the same time or under the same banner as critical thinking, it does not follow that critical thinking should be conceived of as these other aims. Critical thinking is not exactly the same thing as argumentative essay writing or collaborative conversation. With this caveat in mind, I turn to what it means to teach critical thinking; distinguishing between when it does or does not occur.

6.1 Teaching the critical thinking virtues

An immediate benefit of a critical thinking course based on a virtue epistemic conception would be that its goals are well-identified. By not seeking to improve all kinds of thinking, or instil all virtues, both moral and intellectual, the curriculum does not become overcrowded, or misguided. The first complaint of McPeck is that one should not promise to improve thinking *simpliciter*, and this complaint, though misplaced as a criticism of critical thinking, is a justified general admonition. At the time of writing, McPeck was replying to nascent attempts at the definition of a practice which had not defined its goal well enough.

An act of intellectual virtue is one which has internal success, and this is a function of intention towards the good and acting in a way which would reliably achieve the goals of the

² Richard Whately, *Elements of Logic*, 9th ed. (Boston and Cambridge: J. Munroe and Co., 1855)., 168-169.

³ See chapter 5 for the distinction between skills and habits, and the *critical spirit*, and Passmore Passmore, "On Teaching to Be Critical."

virtue in normal situations. It is clear, therefore, that a great deal of critical thinking instruction should be directed towards the development of skills. Without skills, there can be no reliable success. Many critical thinking textbooks focus on the inculcation of skills of argument and reasoning, see Appendix 5 for an overview. One textbook, Ronald Munson and Andrew Black's *The Elements of Reasoning*, has been recently criticised by Benjamin Hamby. It contains the following chapters:

***The Elements of Reasoning*, Ronald Munson and Andrew Black⁴**

1. Recognizing arguments
2. Analyzing arguments
3. Evaluating arguments
4. Some valid argument forms
5. More valid argument forms: Categorical reasoning and Venn diagrams
6. Causal analysis
7. Argument by analogy and models
8. Errors in reasoning: Fallacies
9. Definition
10. Vagueness and ambiguity
11. Reasonable beliefs
12. Rules for writing

Hamby's main concern about textbooks of this type is that they do not 'stress the dispositions necessary for a person to be a critical thinker, such as open-mindedness, intellectual honesty, courage, and a commitment to reason.'⁵ This is a fair observation, and it might be the case that a better textbook would do such things; however, it does not mean that the *course* in which the textbook is employed fails to do such things. I have a more sanguine opinion of such critical thinking textbooks. They may provide drill in skills that *supplement* the acquisition of the critical thinking virtues. As the virtues are those which are arguably best acquired through habituation, it may be pedagogically sound to have students refer to the textbook in order to quickly focus on skill-building—as long as the teacher is aware that this is all they are using the textbook for, and they are not under the impression that being able to do things like *causally analyse* is sufficient for critical thinking. In any case, Hamby's criticism, if applied to critical thinking *courses*, certainly stands.

⁴ Ronald Munson and Andrew Black, *The Elements of Reasoning*, 6th ed. (Boston: Wadsworth, 2012).

⁵ Benjamin Hamby, "Libri Ad Nauseam: The Critical Thinking Textbook Glut," *Paideusis* 21, no. 1 (2013): 39–48., 45.

Hamby identifies Sharon Bailin and Mark Battersby's *Reason in Balance: An Inquiry Approach to Critical Thinking* as the best available critical thinking textbook, in part as it reflects the standing of critical thinking in the literature.⁶ Hamby states that

It is written by scholars in the field, it avoids many traps of a traditional presentation of fallacies, and it stresses attitudes and dispositions and the process of dialectical inquiry. Finally, it avoids the mistake of simply equating critical thinking and argument analysis.⁷

Bailin and Battersby's textbook focusses on fostering the spirit of inquiry reaching a reasoned judgement, which they consider are the aims of critical thinking. Hamby lauds elements of the textbook which I argue are incidental to the aims of critical thinking

Readers are thus reminded that their attitudes matter, and that to be a critical thinker it is never enough to be a negative criticizer, a ruthless fallacy-finder, focused exclusively on winning arguments or gainsaying other perspectives. Instead, readers are encouraged to take a positive and respectful approach to thinking about alternative perspectives, with a view not just to knock them down, but to see how they illuminate our judgment. This is instrumental in fostering critical thinking skills in our students, helping them to become better critical thinkers: people who are both willing and able to go through a process of careful thinking, being open- and fair-minded of alternatives in their efforts to come to reasoned judgments. ... Finally, what distinguishes Bailin and Battersby's book from any other approach I have seen is that a good portion of it is written in dialogue form. Students are exposed to a process of cooperatively examining controversial issues through the exchange of reasons for or against. The book exemplifies real-life conversations that might take place regarding euthanasia, capital punishment, the legalization of marijuana, and polygamy, just to cite a few examples.⁸

I argued in chapter 5 that considerations of respect and cooperation are not the aims of critical thinking and will not restate these arguments here. However, a course that follows Bailin and Battersby's textbook would make a much richer course than one which only teaches the skills from Munson and Black's textbook. Furthermore, Hamby's observation provides us with an excellent view of what a course that focusses on virtues rather than skills would look like.

Other examples of theorists who wish to see a greater role for the development of intellectual virtues in education include Jason Baehr who has argued that 'education should aim at fostering growth in the traits...' of 'intellectual carefulness, intellectual courage,

⁶ Sharon Bailin and Mark Battersby, *Reason in Balance: An Inquiry Approach to Critical Thinking* (Canada: McGraw-Hill Ryerson, 2011).

⁷ Hamby, "Libri Ad Nauseam: The Critical Thinking Textbook Glut.", 46-47.

⁸ Ibid., 46. Page numbers in Hamby's quotation refer to Bailin and Battersby, *Reason in Balance: An Inquiry Approach to Critical Thinking*.

intellectual rigour, and intellectual honesty.’⁹ He identifies seven strategies and requirements for teaching intellectual virtues:

1. a supportive institutional culture
2. direct instruction in intellectual virtue concepts and terminology
3. self-reflection and self-assessment
4. making explicit connections between the course material and intellectual virtues and vices
5. opportunities to practice the actions characteristic of intellectual virtues
6. integrating virtue concepts and standards into formal and informal assessments
7. modelling of intellectual virtues¹⁰

Similarly, Heather Battaly outlines two approaches to teach for intellectual virtue: teaching reliabilist skills of induction and deduction, which she argues would be ‘best-suited for courses in logic and critical thinking’ and teaching the responsibilist virtues of motivation towards truth, which she argues better suit ‘a variety of introductory and upper-division philosophy courses.’¹¹ Battaly defends lessons in typical critical thinking skills as being lessons in reliabilist virtues:

To be skilled in deductive and inductive reasoning, one must acquire a myriad of specialized skills that enable one to identify, evaluate, and construct arguments. Fortunately, many of these specialized skills—e.g., translating English sentences into the symbols of sentential logic; doing derivations in sentential and predicate logic; evaluating the strength of an argument by analogy, etc.—are already being taught via a combination of lecturing, imitation, and supervised practice. In short, many of us are already employing classroom strategies that are conducive to learning the skills of deduction and induction. So, what does virtue epistemology contribute? By arguing that the skills of deduction and induction are reliabilist virtues, virtue epistemology helps to explain and justify the very pedagogical practices that we are already using: it grounds those practices in epistemological theory.¹²

As the conception of virtue I have been advancing requires reliable action, I do not consider the reliabilist epistemic virtues as virtues properly so-called.¹³ However, there is an attractiveness in identifying critical thinking skills-acquisition with the reliabilist epistemic virtues—it does not underestimate the worth of the skills found in textbooks like Munson and

⁹ Baehr, “Educating for Intellectual Virtues: From Theory to Practice.”, 248.

¹⁰ Ibid., 256-259.

¹¹ Battaly, “Teaching Intellectual Virtues: Applying Virtue Epistemology in the Classroom.”, 208

¹² Ibid., 209.

¹³ It seems as though Battaly thinks similarly, as she refers to the reliabilist virtues as ‘skills in deduction and induction’. Ibid., 208.

Black's; these activities are not the *only* value, but without them one would often fail to achieve the internal success of the critical thinking virtues.

Battaly provides an overview of how one can approach the teaching of the responsibilist epistemic virtues, which she characterises as the 'motivation for truth'. Battaly provides many excellent practical examples of how to teach the responsibilist virtues. In particular, the following:

There are several additional strategies that we can use to encourage students to practice intellectually virtuous actions and motivations. Three of the pedagogical tools that we are already using—classroom discussions, argumentative papers, and oral presentations—can be easily adapted to serve this purpose. First, we can require students to practice performing virtuous actions in classroom discussions. Discussions of any philosophical topic provide students with opportunities to listen to ideas that conflict with their own; to defend their own ideas against objections; to admit that they were mistaken; and so on. Instructors can require each student to write a one-page paper, which describes an intellectually virtuous act that he or she performed during a classroom discussion, and his or her motivations for performing that act. Instructors must monitor the intellectual actions performed in discussions, and indicate when students are succeeding and when they are failing to hit the mean. After all, it will sometimes be appropriate for the open-minded person to ignore a conflicting view (e.g., when it is blatantly racist), for the courageous person to capitulate (e.g., when she acquires sufficient evidence against her view), and so on. Instructors can indicate which moments in the discussion call for admitting defeat, or ignoring an alternative, as well as which moments call for defending one's view, or entertaining alternatives. Second, we can require students to practice performing virtuous actions in researching and constructing argumentative papers. In constructing a written argument on any philosophical topic, students will have opportunities to defend their views, to consider reasonable objections and alternatives, to be thorough, and to take care in gathering and evaluating evidence. Instructors can require each student to write a supplementary one-page paper that describes: (1) an intellectually virtuous act that he or she performed in preparing the argumentative paper and his or her motivations for performing that act; and (2) an intellectual act that he or she performed in preparing the argumentative paper that fell short of a virtuous act. Third, we can require students to practice performing virtuous acts in oral presentations to the class. We can encourage students to perform virtuous acts in constructing their oral arguments and in answering questions from fellow students. Again, a short supplementary paper can be required.¹⁴

Battaly rightly sees that 'it is not enough to know which actions and motivations are said to be virtuous' and that '[s]tudents must also learn to care about truth and consistently perform virtuous actions.'¹⁵ To do this, Battaly argues

we can draw their attention to different intellectual motivations and intellectual actions (if not our own then those of others), and, in particular, to the motivations and actions that are characteristic of the responsibilist virtues.¹⁶

¹⁴ Ibid., 210., 216. Further examples from pp 210-217.

¹⁵ Ibid., 214.

¹⁶ Ibid., 211.

Any such course must provide students with many opportunities to practice virtuous acts. In practice, there will be a tension in this approach. Much of the time, a critical thinking class will be involved in teaching students how to interpret, analyse, and create arguments so that they can better defend their own opinions and see through the chicanery of others. Argument analysis skills are both subsidiary benefits and stepping-stones to help students better embody the virtues of prudent wariness, conscientiousness and self-awareness. Other activities such as identifying heuristics and detecting fallacies will also aid in assisting students in acquiring the skills required for the critical thinking virtues. However, the virtue approach must also aid in the inculcation of dispositions towards the goods of each virtue. Providing an environment in which these virtues can develop is essential. Such a course makes for a more coherent and attractive curriculum for a student rather than a sort of ill-focused course on learning the rules of logic or how to win debates without cheating.

A critical thinking course with a clear view of which virtues are constitutive and which are incidental provides students with a clear view of value. Having intellectual autonomy as the aim provides a strong motivation—students can be shown that people are trying to fool them and that their own beliefs and cognitive weaknesses can lead them to make mistakes. The teacher plays a vital role in such classes, as acquisition of virtue requires modelling and habituation. McPeck warns that in order to fully practice critical thinking, even the teacher should be questioned:

True critical or autonomous thinking is, by definition, doing *one's own* thinking; therefore, students must cut loose from their dependency on authority. Yet teachers in a classroom are in a *de facto* position of authority, and this fact has a deleterious effect upon the free and open exchange of ideas. It can be like having an adult referee at a teenage pillow fight. Thus, the pedagogical problem is one of conveying the idea that reason and argument are the only acceptable currency in the pursuit of truth, and that even the teacher's views must be subjected to this tribunal.¹⁷

Furthermore, a good critical thinking class will, as Battaly describes in her class for the intellectual virtues, show students the value in not being fooled and in thinking for themselves.

¹⁷ John E McPeck, *Teaching Critical Thinking: Dialogue and Dialectic* (New York: Routledge, 1990), 52.

Its subsidiary aims, such as writing better essays can also be described in terms of acquisition of belief—better essays are better not because they are simply more persuasive, or free from logical errors, but because they reflect the autonomous beliefs of their author. Being one’s own person and not being fooled is of a higher value—and should be perceived as having higher value by students—than being able to win arguments and write better essays. As I have been arguing, critical thinking cannot be taught without skills, but a virtue approach shows how the skills contribute towards an aim. This frames the activity differently to a *pure skills* or *skills and dispositions* approach. Identifying conclusions and uncovering unstated assumptions are not done for their own sake, but instead are done because these are activities that one will need to be good at in order to not be fooled; a conscientious person has more than just vigilance or a motivation to be conscientious, she has the skills to identify situations of chance and look for evidence; a self-aware person does not simply introspect, but can identify heuristics and biases; and a prudently wary person is not simply cynical of others’ opinions, but is able to detect fallacies and ambiguous language.

In addition to shifts in focus and framing, there are theoretical differences in a virtue approach to critical thinking. One such example is in how *ad hominem* arguments are perceived. Critical thinking textbooks are often worried about the *ad hominem* features of one’s thinking. If a scientist under the employ of a tobacco company offers an argument for the safety of tobacco, or a climate scientist offers an argument for the existence of anthropogenic climate change, or if a climate sceptic offers an argument for the non-existence of anthropogenic climate change, since they are offering me arguments, I should take these on their merits and their sources are (at least largely) irrelevant. I should have the power to adjudicate arguments on their own. Joel Rudinow and Vincent Barry, for example, describe *ad hominem* arguments as follows:

When people argue *ad hominem*, they argue against the person rather than the position or the reasoning. They argue that the person, not that person’s reasoning or position, is defective or at fault. *Ad hominem*’s prevalence and remarkable rhetorical force both probably stem from general psychological tendencies to personalize conflict and escalate hostility. As natural as it may be for us to turn attention to the personal weaknesses, flaws, and failures of others, these

things—whether real or imagined—are, with only rare exceptions, irrelevant to whatever the issue is under discussion.¹⁸

From a virtue perspective, *ad hominem* concern is a kind of wariness, and *ad hominem* considerations are about adjusting one's level of wariness. If an interlocutor is a dubious entrant into a conversation, such as that he stands to gain from something being true, or is a known liar, or struggles to act in a way that is consistent with his beliefs despite exhorting otherwise, then one's wariness of his claims should increase. To not be fooled, one must know the types of people who will try to do so, and the situations in which a person should carry a higher burden of proof. The idea that one should treat everyone as if they are an equally-valid source of reasons, and trust one's capacity to see through any obfuscating rhetoric to the reasons itself and their merits is the vice of epistemic immodesty. A fallacious *ad hominem* from this perspective is one in which one is *too wary*, but wariness has its place. Other fallacies have been analysed as arising through the activity of vices. Scott Aikin and John Casey argue that being too *open-minded* can lead to 'iron manning', which is being overly charitable in one's interpretation of another's argument; and being too *closed-minded* causes one to commit straw man fallacies.¹⁹

6.2 A return to the critical thinking debate

Previous sections have argued that some of the initial complaints about critical thinking, such as offered by McPeck conflate *expertise* with critical thinking. Of course an expert in one field does not spontaneously become an expert in another—the very concept of expertise requires non-simple knowledge of field-specific things. The more critical thinking is dependent on subject-specific knowledge, the less likely it is to transfer. In this section I will argue both that virtues in general are more permeable than knowledge and skills alone, and the activity of the critical thinking virtues I have identified are less dependent on subject-specific knowledge.

¹⁸ Joel Rudinow and Vincent E Barry, *Invitation to Critical Thinking*, 6th ed. (Belmont: Thomson Wadsworth, 2008), 331.

¹⁹ Scott F. Aikin and John P. Casey, "Straw Men, Iron Men, and Argumentative Virtue," *Topoi*, 2015.

They are virtues that may be employed in coming to a recognition that one needs to acquire further knowledge, they engage rather than fail in situations where one knows nothing. As I have been arguing, there are discipline-specific virtues; so despite sharing many virtues, the ideal lawyer may have a different set of virtues to the ideal astronomer. However, I contend that compared to a novice, an expert in one field will find it easier to *become* an expert in another. Becoming an expert requires the acquisition of many intellectual traits and many of these have wider application than any given field. This is the key reason that a virtue-theoretic conception of critical thinking provides a solution to the transfer problem. Someone who has the virtues of conscientiousness, prudent wariness and self-awareness in one field is likely to have it in another. The aim of critical thinking is intellectual autonomy; the critical thinker when placed in an area where she has no prior knowledge will be a critical thinker insofar as she has the virtues that aim towards intellectual autonomy.

The critical thinking debate is a debate over whether or not what is taught in a critical thinking class will transfer. In the scope of this thesis, I cannot prove that a virtues approach will aid in transfer—that is an empirical claim. However, I can show that a virtues approach removes many of the obstacles and objections raised by those who argue that critical thinking does not transfer. Teaching critical thinking is not teaching people to know everything, or be able to walk into a room and solve every problem; instead, it is a matter of fostering in students the ability to think for oneself—to avoid being controlled by one’s biases, one’s history, and the sophistry of others. The main objections to transfer do not apply to the critical thinking virtues I have identified. Alternative virtue-conceptions of critical thinking, such as those offered by Bailin and Battersby who argue that critical thinking aims at reasoned-judgement, may find it more difficult to address the transfer problem; reasoned-judgement involves a stronger requirement of knowledge than intellectual autonomy as it is more context-dependent.

McPeck, and those who argue against transfer, have argued against the idea that people who have been taught how to think correctly can do it everywhere. This is a false picture of the aims of critical thinking, which makes it appear as though the transfer problem

is enormous and insurmountable. With the correct picture, the problems of transfer are no longer insurmountable. I am not arguing for perfect transfer of the critical thinking virtues. However, if one is self-aware in church, one can be self-aware in a political meeting. The activity of the critical thinking virtues is very much the same thing in different spheres—there may be different emotions, or different levels of knowledge, or different levels of antipathy from one area to the next, but this is not what is of concern in the transfer problem. To be fair, it is not so much that McPeck and others who argue against transfer are necessarily in the grip of a false picture of critical thinking, but rather they are criticising others for being in the grip of a false picture. They are right to do so; however, they have missed what is really of value here.

McPeck argues against the ‘standard approach’ to transfer (which he diagrams in Figure 4). For McPeck, ‘the standard approach chooses to teach certain *general principles* which apply to all (or most) areas of human knowledge’ and that, if successful, this would explain the importance of giving students standalone courses in these principles, as it would result in an ‘impressive economy’—a little time spent on principles will reap benefits across all aspects of intellectual life.

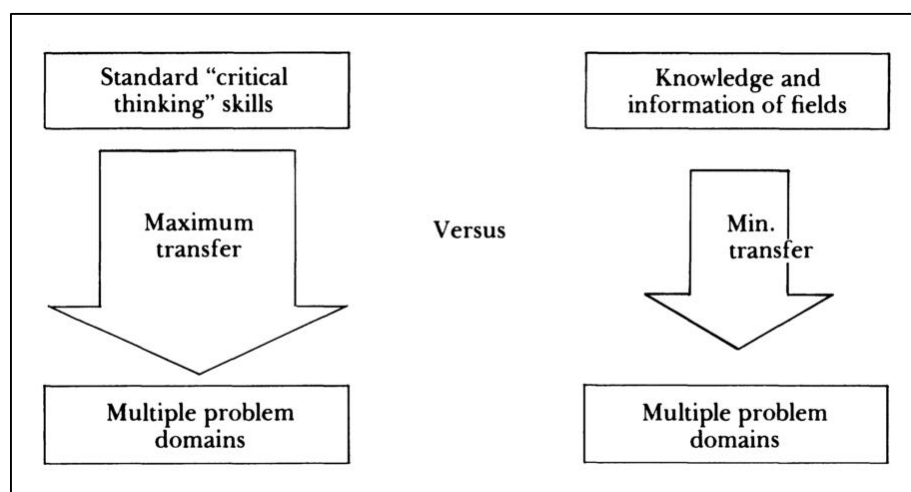


Figure 4: McPeck’s depiction of the ‘standard approach’ to transfer²⁰

²⁰ John E McPeck, “Stalking Beasts, but Swatting Flies: The Teaching of Critical Thinking,” *Canadian Journal of Education* 9, no. 1 (1984): 28–44., 38.

McPeck argues by way of analogy that this standard approach to teaching critical thinking skills is misguided:

If, just out of the blue, someone offered to improve our *speed*, the first thing we would properly ask is “at what?” We’d probably all like to be speedier at running, or reading, or typing, or even changing mufflers, but we know that no single course could improve our speed at all things. Given that the range of things over which we’d like to improve our “reasoning ability” is perhaps even wider than the range of things over which we desire to improve our speed, then the prospects for improving our general reasoning ability are even dimmer. And the reason they are dim, I’m suggesting, is that the very notion of “general reasoning ability” is, upon reflection, incoherent. At the very least, intellectual clarity would be much improved by our dropping the phrase “reasoning ability” from our critical thinking lexicon. We are not in the business of improving reasoning ability *simpliciter*.²¹

This is an unfair characterisation of the critical thinking movement who use ‘reasoning ability’ to refer to a set of skills, usually those of argument-analysis (which McPeck also considers a mistake). However, his concern is with the ‘burgeoning cottage industry in textbooks and materials promising to improve everyday reasoning.’²² McPeck claims that transfer across such a wide range of spheres implied by ‘everyday reasoning’ is unlikely, and courses that purport to be able to do so promise too much. Robin Barrow puts the case against transfer of skills clearer. For Barrow, generic skills are those which he argues are ‘perfected by practice at the activity itself’, such as ‘the ability to dribble a ball, the sleight of hand of the conjuror and the ability to plane a piece of wood well.’²³ In contrast, skills involved in intellectual pursuits are far from generalisable:

If we turn to the skills of, say, the historian or even the skills of reading and writing, we see that some at least of these so-called skills are quite different kinds of thing. It may be reasonable to see the ability to form letters or decode words as skills in the sense of physical abilities, perfected by practice, though even here there is a difference in that such ‘skills’ involve considerably greater understanding than does the skill of dribbling a ball. ... The skills of the historian, for instance, include imagination, knowledge and intellect. The important practical point is that whereas one helps someone to perfect the skill of planing wood largely by helping them perform the operation and giving them practice, perhaps supplemented by a minimum of explanation (e.g. if you press too heavily, it will not run smoothly), one does not help somebody to become a sophisticated reader or a good historian by getting them to practice specific operations, so much as by giving them understanding of literature and history. ... The skill of planing wood or dribbling a ball is something that, if one has it, one may put to use in a variety

²¹ Ibid., 30.

²² Ibid., 29.

²³ Barrow, “Skill Talk.”, 191.

of situations for a variety of purposes. The skills of the historian—the ability to weigh evidence, for example—are not things that can be transferred.²⁴

As ability to weigh evidence in a historical setting is dependent on knowledge within and about the field of history, it is wrong to assume it will transfer to a scientific setting—though a case could be made that some skills in history may be more likely transfer to *nearer* settings, such as anthropology.²⁵ However, McPeck and Barrow’s claim against general transfer is that the application of skills within disciplines require *understanding*, so are tied to knowledge. A virtue approach does not face this objection. A critical thinker is one with the critical thinking virtues, and their attainment is largely independent of knowledge. In fact, Barrow sees that dispositional characteristics will transfer:

To be sure there may be aspects of being good at weighing evidence in history that will find application elsewhere, such as a disposition to weigh evidence, though I would rather say that these are characteristics of the individual than that they are abilities which they transfer.²⁶

It is not a requirement of self-awareness that one knows everything, but only to be aware when one is out of one’s depth. A historian with the virtue of self-awareness will be able to use the same self-awareness in other fields. Self-awareness differs from ‘weighing evidence’—an activity which is field-dependent. An individual characteristic is far more stable across contexts. Siegel, too, suggests that arguments against transfer do not address his *critical spirit*, which he argues is ‘fully generalizable’.²⁷

David Bridges offers a distinction between two types of skills: ‘transferable or core skills’ and ‘transferring skills’.²⁸ He argues that *transferrable skills* differ in their context

²⁴ Ibid., 191-192.

²⁵ I do not wish to defend the case for near or far transfer here. For an excellent overview of the problems with far transfer, see Susan M Barnett and Stephen J Ceci, “When and Where Do We Apply What We Learn? A Taxonomy for Far Transfer,” *Psychological Bulletin* 128, no. 4 (2002): 612–37.

²⁶ Barrow, “Skill Talk,” 192.

²⁷ Harvey Siegel, “The Generalizability of Critical Thinking,” *Educational Philosophy and Theory* 23, no. 1 (1991): 18–30., 19.

²⁸ David Bridges, “Transferable Skills: A Philosophical Perspective,” *Studies in Higher Education* 1, no. October 2012 (1993): 43–51., 50.

specificity, in that word-processing skills can help in multiple settings, but negotiating skills are

heavily context dependent, relying on all sorts of sensitivity to, responsiveness to and adaptation to relations between you and your partner, your class of students, your employer or your bank. And, indeed, it will be a recipe for disaster if you do not adapt your style and approach to these different social relations.²⁹

As such, the former sub-variety of *transferable skills* (such as word-processing) are less resistant to transfer than the latter sub-variety (such as negotiation skills). He recognises that identifying a list of those skills which are transferable ‘may be quite useful, though it threatens to be an enormous list of items.’³⁰ Instead, he suggests we identify and focus on *transferring skills*, which are ‘... the meta-skills, the second order skills, which enable one to select, adapt, adjust and apply one’s other skills to different situations... and perhaps similarly across different cognitive domains.’³¹ For Bridges, ‘[a]ny account of such meta-competencies must surely include reference to at least three elements’:

1. to the sensitive and intelligent discernment of similarities and differences between one social/cognitive setting and another;
2. to whatever cognitive equipment it is which enables someone to modify, extend or adapt a previous repertoire or response to the different requirements of the new situation;
3. to the attitudes or dispositions which support both of these—perhaps a combination of the receptiveness and sensitivity which is necessary to the first of these requirements with the confidence or enterprise which supports the second.³²

The virtues of critical thinking, as I have described them, share many similarities with the items in the above list. Self-awareness will provide a sensitive realisation that one is out of one’s depth, or that one must acquire a set of skills or knowledge in a field in order to reach an autonomous decision; conscientiousness will provide the motivation to pursue such acquisition. I do not wish to equate virtues with skills or meta-competencies; however, the similarities between Bridges’ *transferring skills* and the dispositions and skills of virtuous

²⁹ Ibid., 50.

³⁰ Ibid., 50.

³¹ Ibid., 50.

³² Ibid., 50-51.

critical thinking suggest that one who has these or similar powers will be more capable of transferring other skills. This is a tempting line of argument; it suggests that the critical thinking virtues are sufficient for the transfer of non-critical thinking skills. However, I do not advance it here. My argument is that the critical thinking virtues themselves are worth pursuing and arguments against transfer of critical thinking skills do not apply to them.

Having the skills of argument in one field does not guarantee that one will have them in another field. McPeck's claim that general critical thinking skills face obstacles to transfer as they require subject-specific knowledge may well stand. However, self-awareness makes one conscious of one's strengths and limitations in both skills and knowledge and conscientiousness involves a motivation towards filling these gaps. These attributes are likely to be stable across many fields. If a person is self-aware, when she enters a new field she will be more likely to know if something is missing in her knowledge base. The critical thinking virtues may not always help to win arguments, but they help in not being fooled. This is in part because someone with the critical thinking virtues will not form strong beliefs in a novel field of high technicality and will have a tendency to avoid over-confident judgement.

However, I do not make the claim that possessing the critical thinking virtues will ensure that one will always know when one is out of one's depth, or that by having the critical thinking virtues one will always know when to withdraw and not be fooled. I have argued that the critical thinking virtues require internal success, not external success. The external success of these virtues is not necessarily transferrable. Someone with the critical thinking virtues may be internally successful, but bad luck or lack of knowledge may prevent him from avoiding intellectual heteronomy. Intellectual autonomy sometimes requires luck, and sometimes requires knowing what one does not know. To know who the charlatans are, one will sometimes need specialised knowledge. At other times, one will need worldly knowledge. Consider the distinction between a Nigerian email scam and an elaborate variant of the Spanish

Prisoner confidence game.³³ Someone who falls for the former can only do so by not having the critical thinking virtues as she would fail to achieve the internal successes of prudent wariness and conscientiousness. However, this failure is of a different kind to the failure of someone who falls for an elaborate version of the Spanish Prisoner confidence trick. In this case, intellectual autonomy depends on knowing one is involved in a scam that has been specifically designed to fool those who are conscientious and prudently wary. Knowledge is clearly an ineliminable feature of external success, but it is also needed for internal success. Without it, one cannot accurately calibrate one's level of wariness. However, knowledge requirements for the exercise of critical thinking virtues—and for their internal and external successes—are easily met most of the time. We rarely find ourselves the victim of a Spanish Prisoner style sting. In most circumstances, everyday practical knowledge and self-knowledge suffice for us to calibrate appropriate levels of wariness. A person who employs the critical thinking virtues in one domain will generally find it a straightforward affair to apply them in another domain. There is at least *prima facie* plausibility that those who achieve internal success in one field will be more likely to achieve internal success in other fields.

The *telos* of the critical thinking virtues is intellectual autonomy, and this is not something that one can establish in specialised fields without specialised knowledge. People are critical thinkers in *X*, insofar as they have the virtues of critical thinking to do with the activity of *X*. Intellectual autonomy can be lost in religious matters, and inside scientific communities. Furthermore, some fields (at least at the basic level) may not lend themselves to having critical thinkers, as they are not candidates for autonomous thought. If there is no call to be conscientious, prudently wary, or self-aware in the fields such as basic mathematics, then these are not fields for critical thinking. Furthermore, failures of critical thinking within a field

³³ Spanish Prisoner confidence tricks involve the promise of great rewards in exchange for a modest payment. This modest payment is claimed to be for various things: to release someone out of prison in another country (who then promises to offer a greater reward for their release), to pay bribes to free-up accounts, to release valuable goods from customs, and so on. Nigerian email scams are basic variants of this confidence trick. These are plainly fake, but succeed due to the large numbers of people who are able to be contacted via email.

occur not because of a lack of knowledge, but because of a lack of virtue. If a critical thinker enters the field of theoretical physics without any requisite skills, he will realise he lacks the skills and seek out those whose testimony is worth paying attention to. If he does not recognise his ignorance, or forms beliefs without being wary of experts in the field who are able to wield considerable powers of deception owing to their expertise, then he fails at being a critical thinker. Critical thinking is not a test of expertise, but a test of whether one can form a judgement that is one's own. Failing at critical thinking does not come from having limits, but it comes from failing to recognising one's limits.

A critical thinking course need not solve every intellectual problem, and an approach to critical thinking need not be as ambitious as the one Richard Paul proposes.³⁴ Just as we do not need to seek improvement at thinking skills in general in order to foster the critical thinking virtues, we also do not need to seek to improve virtues in general. Jonathan Adler argues that

McPeck's inflation consists in demanding that CT programs be an educational Holy Grail, when all that should be demanded, and it is plenty, is that they promise to lead to the "significantly better." Improvement is what is required for justification, not some level of absolute success.³⁵

Though Paul could argue likewise that all that is needed to justify a course that seeks to teach all of the virtues is that it make people 'significantly better', the goal is unfocussed and thus risks confusing students. Intellectual and moral virtues do not combine easily; and with too many aims come too many values, and these values can and do clash and fail to coordinate. Practically, the aims of a project like Paul's would be approached over a lifetime of education rather than in a single undergraduate degree, let alone a single undergraduate subject. Critical thinking does not include everything that is good about the human mind and the intellectual life; it is a sub-discipline, and courses that seek to teach all of the virtues also may overpromise. We also should not expect critical thinking virtues to be acquired within a single subject. After

³⁴ See section 5.1.

³⁵ Jonathan E Adler, "Critical Thinking, A Deflated Defense: A Critical Study of John E. McPeck's Teaching Critical Thinking: Dialogue and Dialectic," *Informal Logic* 13, no. 2 (1991): 61–78., 62.

providing rich examples of how the intellectual virtues may be taught, Battaly is careful to claim that these activities do not guarantee students will acquire the virtues:

Of course, it is widely thought that practicing virtuous motivations and actions gradually leads one to acquire a taste for them. But there are no guarantees—I suspect that many readers know students who, despite such practice, do not acquire the intellectual virtues. Nature and the values that our students have learned before they enter our classrooms each undeniably play a role. Second, even if this worry were set aside, we would not expect students to acquire the responsible virtues in one semester. Students must be afforded a plethora of opportunities to care about the truth and perform virtuous actions.³⁶

Although many will never acquire intellectual virtues, Battaly is optimistic that ‘the acquisition of intellectual virtue can *begin* in a single classroom.’³⁷

6.3 Conclusion

In this chapter I have argued that a conception of critical thinking as the achievement of certain intellectual virtues provides clarity and avoids the critical thinking debate. Alternative conceptions of critical thinking, such as those offered by Bailin and Battersby, and Paul focus on achieving aims that are not within the scope of critical thinking. Teachers may wish to add moral virtues such as intellectual empathy or intellectual honesty to their classes to ensure students behave well, or act as productive members of a community of inquiry, or intellectually-responsible members of society in general; however, it does not follow on this basis that these components should be added to the concept of critical thinking. The critical thinking debate arises from concerns about transfer of skills, knowledge, and virtues. I have argued that a virtue theoretic approach to critical thinking avoids the arguments advanced against transfer. Virtues are stable features of character, and the critical thinking virtues are largely knowledge-independent—one with the critical virtues will know when one knows nothing.

³⁶ Battaly, “Teaching Intellectual Virtues: Applying Virtue Epistemology in the Classroom.”, 218.

³⁷ Ibid., 218 (*italics in original*).

7. Conclusion

In this thesis I have argued that extant conceptions of critical thinking can benefit from virtue theory in general, and virtue epistemology in particular. Early conceptions of critical thinking focussed too strongly on requisite skills. Criticism of these conceptions led to the addition of dispositions, and these dispositions have, over time, shifted from *motivations to act* to *motivations to act for the good*. This building-up of the picture of a critical thinker either leads to circularity, or extensive lists of attributes and capacities that are incoherent. We are able to largely avoid these concerns by adopting an agent-based approach. I have argued that it is only after we have a clear picture of the aims of critical thinking that we can determine its requisite components, and not vice versa.

Virtue theorists have advanced various accounts of the role of success in virtuous action. For some, success is a necessary ingredient; for others, motivations are fundamental and success is considered to be something that will tend to follow from the right motivations, but is not a requirement of virtuous action. I have distinguished between two types of success: success that is external, which is the success that is achieved when the aim is achieved; and success that is internal, which is a combination of motivation and acting in a way that would reliably achieve the aims of virtuous action. I have argued that a virtuous act requires internal success. This means that, in acting virtuously, one succeeds in being for the good of the virtue, rather than necessarily obtaining the good of the virtue. It is my contention that agents are more admirable if they succeed in achieving internal success than if they are merely motivated towards the good. However, adding external success to internal success does not make one more admirable.

I have argued that the aim of critical thinking is intellectual autonomy. This is distinct from other intellectual practices that are often equated with critical thinking, such as the practices of those engaged in scientific pursuit and communities of inquiry. In a scientific pursuit, one must at times act in a non-critical way to best achieve joint aims; scientific pursuit involves a division of intellectual labour discovering the search for best explanation. A

scientist who is too critical may prematurely abandon a hypothesis, and scientific discovery would be weakened if scientists only pursued theories that are most likely. Similarly, the aims of communities of inquiry lie in reaching a reasoned-consensus, and this sometimes requires activities that are opposed to critical thinking. Consensus requires that one provides others the encouragement and room to voice their opinions, which is different to, and at times opposed to, the aims of critical thinking.

By conceiving the aim of critical thinking as intellectual autonomy, I have identified its essential virtues as those that aim at avoiding intellectual heteronomy. Simply put, this means avoiding being fooled. One can be fooled in three ways—by chance, by others, and by one's self. The three critical thinking virtues I have identified are those that avoid such heteronomous distortions of belief. They are: conscientiousness, a virtue of seeking out information and not leaving acquisition of belief in important matters to chance; prudent wariness, a virtue that involves an alertness to the deceptions of others; and self-awareness, a virtue of introspection that recognises one's biases, prejudices and fallibilities as a source of potential influence over one's beliefs. One is a critical thinker insofar as one achieves the internal successes of these virtues, and one is intellectually autonomous insofar as one achieves the external successes of the critical thinking virtues. This conception recognises that even possession of these virtues may not be enough to be intellectually autonomous—one can act in a way that would reliably reach the aims of the virtues under normal conditions, but still be under the doxastic control of heteronomous forces. The question “What do *you* think?” is the realm for critical thinking. Where personal intellectual autonomy exists, so does critical thinking. Working out what one thinks requires some argument analysis; working out what one thinks requires avoiding bad reasoning, and detecting the bad reasoning in others' arguments; and in many cases, working out what one thinks requires a deep level of knowledge.

In the account I have developed here, critical thinking is its own project. It is not good thinking as such; it is thinking in robust pursuit of intellectual autonomy. Intellectual autonomy

is not the goal of all intellectual pursuits. One can be a critical thinker in science insofar as one pursues intellectual autonomy with internal success. However, this is not the same thing as being a good scientist. Being a good scientist is determined by the practice of science and its requisite skills and dispositions, as is being a good lawyer or psychologist or soil tester. In some fields there may not be much room for autonomy, thus not much room for critical thinking—such as mathematics, at least at the undergraduate level. Critical thinking is especially important in fields in which interpretation is valued, or necessary—such as aesthetic, ethical, and political subjects. When physicians approach the problem of how to best treat a broken arm, there is relatively little room for intellectual autonomy to become an issue. By comparison, critical thinking is highly relevant to the problem of how to best treat certain types of cancer. We need physicians to be critical in such situations because there are multiple different viewpoints from which to choose. Some viewpoints will be presented by people who have vested interests, some will be presented by those who base their findings on anecdote—a physician who is a critical thinker can navigate these and reach a decision that is her own, reflecting her own best judgement of her expertise and its limits.

The critical thinking debate arose due to a conflation of critical thinking with good thinking. Good thinking in science differs from good thinking in law and journalism; the virtues of one field not only differ, in part, from those of another, they partly conflict. However, virtues that contribute to critical thinking complement each other and are directed towards a particular goal: establishing personal intellectual autonomy. Intellectual autonomy is intrinsically valuable and its effects are also valuable. For example, the value of intellectual autonomy reflects the importance of individuality and pluralism of thought. We want people to be their own person, to think for themselves. We want people to think for themselves about disciplines, but the disciplines themselves have certain rules, and certainly have their own attendant requisite amounts of knowledge and unique practices. So the participants in the critical thinking debate rightly observe that people cannot be good thinkers in every field. Goodness of thinking in a field resists transfer, as it is dependent on field-specific knowledge,

field-specific virtues, and field-specific skills. I cannot be a good thinker in the area of advanced physics, I cannot even be a critical thinker in the field of physics; however, if I form strong opinions about dark energy without exhibition of the critical thinking virtues, then I am neither a critical thinker nor intellectually autonomous. However, virtues that are shared between fields are more likely to transfer, as these are at least less bound by context. A person who has the virtue of conscientiousness will be likely to seek appropriate evidence and reason in every context in which truth or justified opinion is sought. A prudently wary person will require the skills and dispositions to be sensitive to the deception of others. This may require subject-specific knowledge, but the person with robust self-awareness will tend to appreciate their lack of knowledge and not form beliefs that overstep their understanding.

The aim of intellectual autonomy contrasts with other putative aims of critical thinking, such as fairmindedness, reasoned-judgement, or good intellectual citizenship. Making students good intellectual citizens is a worthy aim, but this is more of a goal for an entire education. Reasoned-judgement as an aim clouds the focus of critical thinking, which I have argued is a more personal than public activity. The main pedagogical difference in approaching critical thinking as having the aim of intellectual autonomy lies in framing the curriculum. Successfully teaching critical thinking to students does not mean simply improving university performance on essays and speeches, or enhancing all of their attributes to make them pleasant and cooperative members of an intellectual community. It is about imparting the virtues of intellectual self-defence. Certainly there are dangers in a critical thinking class that does not alert students to the fact that the powers of self-defence can be used to intimidate and trick others. However, there is cause for optimism. On the way to virtue, students may misapply their newly-fledged skills and it is the job of a good teacher to ensure this does not happen. This is a danger inherent in the skills of critical thinking, not the virtues. It is common for critical thinking courses to offer definitions of ‘critical’ that immunise against its negative, disapproving fault-finding connotations. It is right to do so, as it is right to focus on positive activities of criticism in a classroom. However, it is wrong to add unwarranted

positive components to its conception. We need not add additional moral virtues of fairness and caring to the concept of critical thinking to solve this problem, though these additional moral virtues have a place in a critical thinking classroom. Critical thinking is not the only good, but it is its own good.

8. Appendices

Appendix 1: Ennis' 1987 conception of critical thinking

Working definition: Critical thinking is reasonable reflective thinking that is focused on deciding what to believe or do.

I. Critical thinking so defined involves both dispositions and abilities:

A. Dispositions

1. **Seek a clear statement of the thesis or question**
2. **Seek reasons**
3. **Try to be well informed**
4. **Use and mention credible sources**
5. **Take into account the total situation**
6. **Try to remain relevant to the main point**
7. **Keep in mind the original and/or basic concern**
8. **Look for alternatives**
9. **Be open-minded**
 - a) Consider seriously other points of view than one's own (dialogical thinking)
 - b) Reason from premises with which one disagrees - without letting the disagreement interfere with one's reasoning (suppositional thinking)
 - c) Withhold judgement when the evidence and reasons are insufficient
10. **Take a position (and change a position) when the evidence and reasons are sufficient to do so**
11. **Seek as much precision as the subject permits**
12. **Deal in an orderly manner with the parts of a complex whole**
13. **Use one's critical thinking abilities**
14. **Be sensitive to the feelings, level of knowledge, and degree of sophistication of others**

B. Abilities

1. **Focusing on a question**
 - a) Identifying or formulating a question
 - b) Identifying or formulating criteria for judging possible answers
 - c) Keeping the situation in mind
2. **Analyzing arguments**
 - a) Identifying conclusions
 - b) Identifying stated reasons
 - c) Identifying unstated reasons
 - d) Seeing similarities and differences
 - e) Identifying and handling irrelevance
 - f) Seeing the structure of an argument
 - g) Summarizing
3. **Asking and answering questions of clarification and/or challenge, for example:**
 - a) Why?
 - b) What is your main point?
 - c) What do you mean by '_____'?
 - d) What would be an example?
 - e) What would not be an example (though close to being one)?
 - f) How does that apply to this case (describe a counterexample)?
 - g) What difference does it make?
 - h) What are the facts?
 - i) Is this what you are saying '_____'?
 - j) Would you say some more about that?
4. **Judging the credibility of a source**
 - a) Expertise
 - b) Lack of conflict of interest

- c) Agreement among sources
- d) Reputation
- e) Use of established procedures
- f) Known risk to reputation
- g) Ability to give reasons
- h) Careful habits

5. **Observing and judging observation reports; criteria:**

- a) Minimal inferring involved
- b) Short time interval between observation and report
- c) Report by observer, rather than someone else (ie. not hearsay)
- d) Records are generally desirable; if report is based on a record, it is
 - a) generally best that
- 2) The record was close in time to the observation
- 3) The record was made by the observer
- 4) The record was made by the reporter
- 5) The statement was believed by the reporter, either because of a prior belief in its correctness or because of a belief that the observer was habitually correct
- e) Corroboration
- f) Possibility of corroboration
- g) Conditions of good access
- h) Competent employment of technology, if technology is useful
- i) Satisfaction by observer (and reporter, if a different person) of
 - a) credibility criteria (item B4)

6. **Deducing and judging deductions**

- a) Class logic
- b) Conditional logic
- c) Interpretation of statements
 - 1) Double negation
 - 2) Necessary and sufficient conditions
 - 3) Other logical words and phrases: *only, if and only if, or, some, unless, not, not both, etc.*

7. **Inducing and judging inductions**

- a) Generalizing
 - 1) Typicality of data
 - 2) Limitation of coverage
 - 3) Sampling
- b) Inferring explanatory conclusions and hypotheses
 - 1) Types of explanatory conclusions and hypotheses
 - a) Causal claims
 - b) Claims about the beliefs and attitudes of people
 - c) Interpretations of authors' intended meanings
 - d) Historical claims that certain things happened
 - e) Reported definitions
 - f) Claims that something is an unstated reason or unstated conclusion
 - 2) Investigating
 - a) Designing experiments, including planning to control variables
 - b) Seeking evidence and counterevidence

- c) Seeking other possible explanations
 - 3) Criteria: Given reasonable assumptions
 - a) The proposed conclusion would explain the evidence (essential)
 - b) The proposed conclusion is consistent with known facts (essential)
 - c) Competitive alternative conclusions are inconsistent with known facts (essential)
 - d) The proposed conclusion seems plausible (desirable)
- 8. **Making value judgements**
 - a) Background facts
 - b) Consequences
 - c) Prima facie application of acceptable principles
 - d) Considering alternatives
 - e) Balancing, weighing, and deciding
- 9. **Defining terms, and judging definitions in three dimensions**
 - a) Form
 - 1) Synonym
 - 2) Classification
 - 3) Range
 - 4) Equivalent expression
 - 5) Operational
 - 6) Example-nonexample
 - b) Definitional strategy
 - 1) Acts
 - a) Report a meaning (reported definition)
 - b) Stipulate a meaning (stipulative definition)
 - c) Express a position on an issue (positional, including programmatic and persuasive definition)
 - 2) Identifying and handling equivocation
 - a) Attention to the context
 - b) Possible types of response
 - 1. The simplest response: 'The definition is just wrong.'
 - 2. Reduction to absurdity: 'According to that definition, there is an outlandish result.'
 - 3. Considering alternative interpretations: 'On this interpretation, there is this problem; on that interpretation, there is that problem.'
 - 4. Establishing that there are two meanings of key term and a shift in meaning from one to the other
 - 5. Swallowing the idiosyncratic definition
 - c) Content
- 10. Identifying assumptions
 - a) Unstated reasons
 - b) Needed assumptions; argument reconstruction
- 11. Deciding on an action
 - a) Define the problem
 - b) Select criteria to judge possible solutions
 - c) Formulate alternative solutions
 - d) Tentatively decide what to do
 - e) Review, taking into account the total situation, and decide
 - f) Monitor the implementation
- 12. Interacting with others
 - a) Employing and reacting to fallacy labels, including
 - 1) Circularity
 - 2) Appeal to authority
 - 3) Bandwagon
 - 4) Glittering term
 - 5) Name calling
 - 6) Slippery slope
 - 7) Post hoc
 - 8) Non sequitur
 - 9) Ad hominem
 - 10) Affirming the consequent
 - 11) Denying the antecedent
 - 12) Conversion
 - 13) Begging the question
 - 14) Either - or
 - 15) Vagueness
 - 16) Equivocation
 - 17) Straw person
 - 18) Appeal to tradition
 - 19) Argument from analogy
 - 20) Hypothetical question
 - 21) Oversimplification
 - 22) Irrelevance
 - b) Logical strategies
 - c) Rhetorical strategies
 - d) Argumentation; Presenting a position, oral or written
 - 1) Aiming at a particular audience and keeping it in mind
 - 2) Organising (common type: main point; clarification; reasons; alternatives; attempt to rebut prospective challenges; summary, including repeat of main point)³³¹

³³¹ Ennis, 'A Taxonomy of Critical Thinking Abilitites and Dispositions.', 12-15.

Appendix 2: The Delphi Report's 'Consensus Statement Regarding Critical Thinking and the Ideal Critical Thinker'

We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society.

Appendix 3: The Delphi Report's 'Affective Dispositions of Critical Thinking' (numbers added)

Approaches to life and living in general:

1. inquisitiveness with regard to a wide range of issues,
2. concern to become and remain generally well-informed,
3. alertness to opportunities to use CT,
4. trust in the processes of reasoned inquiry,
5. self-confidence in one's own ability to reason,
6. open-mindedness regarding divergent world views,
7. flexibility in considering alternatives and opinions,
8. understanding of the opinions of other people,
9. fair-mindedness in appraising reasoning,
10. honesty in facing one's own biases, prejudices, stereotypes, egocentric or sociocentric tendencies,
11. prudence in suspending, making or altering judgments,
12. willingness to reconsider and revise views where honest reflection suggests that change is warranted.

Approaches to specific issues, questions or problems:

1. clarity in stating the question or concern,
2. orderliness in working with complexity,
3. diligence in seeking relevant information,
4. reasonableness in selecting and applying criteria,
5. care in focusing attention on the concern at hand,
6. persistence though difficulties are encountered,
7. precision to the degree permitted by the subject and the circumstance.

Appendix 4: Richard Paul's Intellectual and Moral Virtues of the Critical Person

1. *Intellectual Humility*: Having a consciousness of the limits of one's knowledge, including a sensitivity to circumstances in which one's native egocentrism is likely to function self-deceptively; sensitivity to bias, prejudice, and limitations of one's viewpoint. Intellectual humility depends on recognizing that one should not claim more than one actually knows. It does not imply spinelessness or submissiveness. It implies the lack of intellectual pretentiousness, boastfulness, or conceit, combined with insight into the logical foundations, or lack of such foundations, of one's beliefs.
2. *Intellectual Courage*: Having a consciousness of the need to face and fairly address ideas, beliefs, or viewpoints toward which we have strong negative emotions and to which we have not given a serious hearing. This courage is connected with the recognition that ideas considered dangerous or absurd are sometimes rationally justified (in whole or in part) and that conclusions and beliefs inculcated in us are sometimes false or misleading. To determine for ourselves which is which, we must not passively and uncritically "accept" what we have "learned." Intellectual courage comes into play here, because inevitably we will come to see some truth in some ideas considered dangerous and absurd, and distortion or falsity in some ideas strongly held in our social group. We need courage to be true to our own thinking in such circumstances. The penalties for non-conformity can be severe.
3. *Intellectual Empathy*: Having a consciousness of the need to imaginatively put oneself in the place of others in order to genuinely understand them, which requires the consciousness of our egocentric tendency to identify truth with our immediate perceptions or long-standing thought or belief. This trait correlates with the ability to reconstruct accurately the viewpoints and reasoning of others and to reason from premises, assumptions, and ideas other than our own. This trait also correlates with the willingness to remember occasions when we were wrong in the past despite an intense conviction that we were right, and with the ability to imagine our being similarly deceived in a case at hand.
4. *Intellectual Good Faith (Integrity)*: Recognition of the need to be true to one's own thinking; to be consistent in the intellectual standards one applies; to hold one's self to the same rigorous standards of evidence and proof to which one holds one's antagonists; to practice what one advocates for others—and to honestly admit discrepancies and inconsistencies in one's own thought and action.
5. *Intellectual Perseverance*: Willingness and consciousness of the need to pursue intellectual insights and truths in spite of difficulties, obstacles and frustrations; firm adherence to rational principles despite the irrational opposition of others; a sense of the need to struggle with confusion and unsettled questions over an extended period of time to achieve deeper understanding or insight.
6. *Faith in Reason*: Confidence that, in the long run, one's own higher interests and those of humankind at large will be best served by giving the freest play to reason, by encouraging people to come to their own conclusions by developing their own rational faculties; faith that, with proper encouragement and cultivation, people can learn to think for themselves, to form rational viewpoints, draw reasonable conclusions, think coherently and logically, persuade each other by reason and become reasonable persons despite the deep-seated obstacles in the native character of the human mind and in society as we know it.
7. *Fairmindedness*: Willingness and consciousness of the need to treat all viewpoints alike, without reference to one's own feelings or vested interests, or the feelings or vested interests of one's friends, community, or nation, implies adherence to intellectual standards without reference to one's own advantage or the advantage of one's group.³³²

³³² Paul, "Critical Thinking, Moral Integrity, and Citizenship." 169-170.

Appendix 5: Chapters of Critical Thinking Textbooks

1. ***Critical Reasoning: Understanding and Criticizing Arguments and Theories***, Jerry Cederblom and David W. Paulsen³³³
 1. Deciding what to believe
 2. The anatomy of arguments: Identifying premises and conclusions
 3. Understanding arguments through reconstruction
 4. Evaluating arguments: Some basic questions
 5. When does the conclusion follow? A more formal approach to validity
 6. Fallacies: Bad arguments that tend to persuade
 7. “That depends on what you mean by...”
 8. Arguments that are not deductive: Induction and statistical reasoning
 9. Causal, analogical, and convergent arguments: Three more kinds of nondeductive reasoning
 10. Explanation and the criticism of theories
 11. Putting it all together: Six steps to understanding and evaluating arguments
 12. Making reasonable decisions as an amateur in a world of specialists
 2. ***Critical Thinking***, Brooke Noel Moore, Richard Parker³³⁴
 1. What is critical thinking, anyway?
 2. Two kinds of reasoning
 3. Clear thinking, critical thinking, and clear writing
 4. Credibility
 5. Persuasion through rhetoric: Common devices and techniques
 6. More rhetorical devices: Psychological and related fallacies
 7. More fallacies
 8. Deductive arguments I: Categorical logic
 9. Deductive arguments II: Truth-functional logic
 10. Three kinds of inductive arguments
 11. Causal explanation
 12. Moral, legal, and aesthetic reasoning
3. ***Critical Thinking***, Richard L. Epstein³³⁵
 1. Critical thinking
 2. What are we arguing about?
 3. What is a good argument?
 4. Repairing arguments
 5. Is that true?
 6. Compound claims
 7. Counterarguments
 8. General claims
 9. Concealed claims
 10. Too much emotion
 11. Fallacies
 12. Reasoning by analogy
 13. Numbers?
 14. Generalizing
 15. Cause and effect
 16. Evaluating reasoning
 17. Composing good arguments
 18. Making decisions
 4. ***Critical Thinking: A Concise Guide***, Tracy Bowen and Gary Kemp³³⁶
 1. Introducing arguments
 2. Language and rhetoric
 3. Logic: Deductive validity
 4. Logic: Probability and inductive reasoning

³³³ Jerry Cederblom and David Paulsen, *Critical Reasoning: Understanding and Criticizing Arguments and Theories*, 7th ed. (Boston, MA: Wadsworth, 2012).

³³⁴ Brooke Noel Moore and Richard Parker, *Critical Thinking*, 9th ed. (New York: McGraw-Hill, 2009).

³³⁵ Richard L Epstein and Carolyn Kernberger, *Critical Thinking* (Belmont: Thomson Wadsworth, 2006).

³³⁶ Tracy Bowen and Gary Kemp, *Critical Thinking a Concise Guide*, 4th ed. (Abingdon: Routledge, 2015).

5. The practice of argument-reconstruction
 6. Issues in argument-assessment
 7. Pseudo-reasoning
 8. Truth, knowledge and belief
5. ***Critical Thinking: An Appeal to Reason***, Peg Tittle³³⁷
 1. Critical thinking
 2. The nature of argument
 3. The structure of argument
 4. Relevance
 5. Language
 6. Truth and Acceptability
 7. Generalization, Analogy, and general principle
 6. ***Critical Thinking and Everyday Argument***, Jay Verlinden³³⁸
 1. Argumentation
 2. Critical thinking
 3. Ethics in argumentation
 4. Introduction to argumentative fallacies
 5. Formal logic: The classical structure of arguments
 6. The Toulmin model of argumentation
 7. Forms of reasoning
 8. Propositions and stock issues
 9. Evidence
 10. Language and argumentation
 11. Refutation
 12. Persuasive public speaking
 13. Critical listening
 14. Dyadic argumentation
 15. Argumentation and small groups
 16. The scientific method and critical thinking
 17. Inductive argument: causal Reasoning
 7. ***Critical Thinking Skills: Developing Effective Analysis of Argument***, Stella Cottrell³³⁹
 1. What is critical thinking?
 2. How well do you think? Develop your thinking skills
 3. What's their point? Identifying arguments
 4. Is it an argument? Argument and non-argument
 5. How well do they say it? Clarity, consistency and structure?
 6. Reading between the lines: Recognising underlying assumptions and implicit arguments
 7. Does it add up? Identifying flaws in the argument
 8. Where's the proof? Finding and evaluating sources of evidence
 9. Critical reading and note-making: Critical selection, interpretation and noting of source material
 10. Critical, analytical writing: Critical thinking while writing
 11. Where's the analysis? Evaluating critical writing
 12. Critical reflection
 8. ***Critical Thinking: Tools for Taking Charge of Your Learning & Your Life***, Richard Paul and Linda Elder³⁴⁰
 1. Becoming a fairminded thinker
 2. The first four stages of development
 3. Self-understanding
 4. The parts of thinking
 5. The standards for thinking
 6. Asking questions that lead to good thinking
 7. Master the thinking, master the content
 8. Discover how the best thinkers learn
 9. Redefining grades as levels of thinking and learning
 10. Making decisions and solving problems
 11. Deal with your irrational mind
 12. How to detect media bias and propaganda
 13. Fallacies: the art of mental trickery & manipulation

³³⁷ Peg Tittle, *Critical Thinking: An Appeal to Reason* (New York: Routledge, 2011).

³³⁸ Jay Verlinden, *Critical Thinking and Everyday Argument* (Boston: Wadsworth, 2005).

³³⁹ Stella Cottrell, *Critical Thinking Skills. Developing Effective Analysis and Argument*, 2nd ed. (New York: Palgrave Macmillan, 2007).

³⁴⁰ Paul and Elder, *Critical Thinking Skills for College Life: Tools for Taking Charge of Your Learning and Your Life*.

14. Developing as an ethical reasoner
 15. Learning & using information critically & ethically, part one
 16. Learning & using information critically & ethically, part two
 17. Strategic thinking, part one
 18. Strategic thinking, part two
 19. Becoming an advanced thinker
9. ***Invitation to Critical Thinking***, Joel Rudinow and Vincent E. Barry³⁴¹
1. Critical thinking
 2. Language
 3. Argument
 4. Argument analysis I: Representing argument structure
 5. Argument analysis II: Paraphrasing arguments
 6. Evaluating deductive arguments I: Categorical logic
 7. Evaluating deductive arguments II: Truth functional logic
 8. Evaluating inductive arguments I: Generalization and analogy
 9. Evaluating inductive arguments II: Hypothetical reasoning and burden of proof
 10. Evaluating premises: Self-evidence, consistency and indirect proof
 11. Informal fallacies I: Assumptions, language, relevance, and authority
 12. Informal fallacies II: Inductive reasoning
 13. Making your case: Argumentative composition
10. ***Introduction to Logic and Critical Thinking***, Merrilee H. Salmon³⁴²
1. Introduction to arguments
 2. Paying special attention to the language of arguments
 3. Deductive arguments, inductive arguments, and fallacies
 4. A closer look at inductive arguments
 5. Causal arguments
 6. Probabilities and inductive logic
 7. Confirmation of hypotheses
 8. Deductive reasoning—sentential logic
 9. Categorical syllogisms
 10. Quantifiers and arguments in which validity depends on relationships
11. ***Reason in the Balance: An Inquiry Approach to Critical Thinking***, Sharon Bailin and Mark Battersby³⁴³
1. The Nature and Value of Inquiry
 2. Introducing Guidelines for Inquiry
 3. Arguments and their Structure
 4. Inductive Arguments and Fallacies
 5. Key Argument Types
 6. Credible Sources and Appeals to Experts
 7. Identifying the Issue
 8. Understanding the Case: Reasons and Context
 9. Evaluating the Arguments
 10. Making a Judgment and Making a Case
12. ***The Elements of Reasoning***, Ronald Munson and Andrew Black³⁴⁴
1. Recognizing arguments
 2. Analyzing arguments
 3. Evaluating arguments
 4. Some valid argument forms
 5. More valid argument forms: Categorical reasoning and Venn diagrams
 6. Causal analysis
 7. Argument by analogy and models
 8. Errors in reasoning: Fallacies
 9. Definition
 10. Vagueness and ambiguity
 11. Reasonable beliefs
 12. Rules for writing

³⁴¹ Rudinow and Barry, *Invitation to Critical Thinking*.

³⁴² Merrilee H. Salmon, *Introduction to Logic and Critical Thinking*, 6th ed. (Boston: Wadsworth, 2013).

³⁴³ Bailin and Battersby, *Reason in Balance: An Inquiry Approach to Critical Thinking*.

³⁴⁴ Munson and Black, *The Elements of Reasoning*.

13. *The Miniature Guide to Critical Thinking Concepts & Tools*, Richard Paul and Linda Elder³⁴⁵

1. Why Critical Thinking
2. The Elements of Thought
3. A Checklist for Reasoning
4. Questions Using the Elements of Thought
5. Criteria for Evaluating Reasoning
6. Universal Intellectual Standards
7. Analyze the Logic of Articles and Textbooks
8. The Problem of Egocentric Thinking
9. Intellectual Traits
10. Three Kinds of Questions
11. A Template for Problem-Solving
12. A Checklist for Assessment
13. What Critical Thinkers Routinely Do
14. Stages of Critical Thinking Development

14. *Think Critically*, Peter Facione and Carol Ann Gittens³⁴⁶

1. The power of critical thinking
2. Skilled and eager to think
3. Solve problems and succeed in college
4. Clarify ideas and concepts
5. Analyze arguments and diagram decisions
6. Evaluate the credibility of claims and sources
7. Evaluate arguments: The four basic tests
8. Evaluate Deductive reasoning and spot deductive fallacies
9. Evaluate inductive reasoning and spot inductive fallacies
10. Think heuristically: Risks and benefits of snap judgements
11. Think reflectively: Strategies for decision making
12. Comparative reasoning: Think “this is like that”
13. Ideological reasoning: Think “top down”
14. Empirical Reasoning: Think “bottom up”
15. Write sound and effective arguments

³⁴⁵ Richard Paul and Linda Elder, *The Miniature Guide to Critical Thinking: Concepts and Tools*, Thinking, 2008.

³⁴⁶ Peter A Facione and Carol Ann Gittens, *Think Critically* (Upper Saddle River, New Jersey: Pearson Education, 2013).

References

- Aberdein, Andrew. "Virtue Argumentation." In *Proceedings of the Sixth Conference of International Society for the Study of Argumentation*, edited by FH van Eemeren, JA Blair, CH Willard, and B Garssen, 1–9. Amsterdam: Sic Sat, 2007.
- Adams, Robert Merrihew. *A Theory of Virtue: Excellence in Being for the Good*. Oxford University Press, 2006.
- Adler, Jonathan E. "Critical Thinking, A Deflated Defense: A Critical Study of John E. McPeck's Teaching Critical Thinking: Dialogue and Dialectic." *Informal Logic* 13, no. 2 (1991): 61–78.
- Aikin, Scott F., and John P. Casey. "Straw Men, Iron Men, and Argumentative Virtue." *Topoi*, 2015.
- Alfano, Mark. *Character as Moral Fiction*. Cambridge: Cambridge University Press, 2013.
- . "Expanding The Situationist Challenge To Responsibilist Virtue Epistemology." *The Philosophical Quarterly* 62, no. 247 (April 30, 2012): 223–49.
- Andrews, JN. "General Thinking Skills: Are There Such Things?" *Journal of Philosophy of Education* 24, no. 1 (1990).
- Annas, Julia. *Intelligent Virtue*. Oxford University Press, 2011.
- Ashby, F Gregory, Alice M Isen, and And U Turken. "A Neuropsychological Theory of Positive Affect and Its Influence on Cognition." *Psychological Review* 106, no. 3 (July 1999): 529–50.
- Axtell, Guy. "Introduction." In *Knowledge, Belief, and Character*, edited by Guy Axtell, Vol. 5. Oxford: Rowman & Littlefield, 2000.
- . "Thinking Twice about Virtue and Vice." (*Forthcoming*), n.d.
<http://philpapers.org/archive/axttta.pdf>.
- Baehr, Jason. "Character in Epistemology." *Philosophical Studies* 128, no. 3 (2006): 479–514.
- . "Character, Reliability and Virtue Epistemology." *The Philosophical Quarterly* 56, no. 223 (April 2006): 193–212.
- . "Educating for Intellectual Virtues: From Theory to Practice." *Journal of Philosophy of Education* 47, no. 2 (May 16, 2013): 248–62.
- . *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*. New York: Oxford University Press, 2011.
- . *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology*. New York: Oxford University Press, 2012.
- Bailin, Sharon. "Critical and Creative Thinking." *Informal Logic* IX, no. 1 (1987): 23–30.
- . "The Problem with Percy: Epistemology, Understanding and Critical Thinking."

- Informal Logic* 19, no. 2 (1999): 161–70.
- Bailin, Sharon, and Mark Battersby. “Beyond the Boundaries: Critical Thinking and Differing Cultural Perspectives.” *Ethics and Education* 4, no. 2 (October 2009): 189–200.
- . “Fostering the Virtues of Inquiry.” *Topoi*, 2015.
- . *Reason in Balance: An Inquiry Approach to Critical Thinking*. Canada: McGraw-Hill Ryerson, 2011.
- Bailin, Sharon, Roland Case, Jerrold R. Coombs, and Leroi B. Daniels. “Common Misconceptions of Critical Thinking.” *Journal of Curriculum Studies* 31, no. 3 (May 1999): 269–83.
- . “Conceptualizing Critical Thinking.” *Journal of Curriculum Studies* 31, no. 3 (May 1999): 285–302.
- Bailin, Sharon, and Harvey Siegel. “Critical Thinking.” In *The Blackwell Guide to the Philosophy of Education*, edited by Nigel Blake, Paul Smeyers, Richard Smith, and Paul Standish. Oxford, UK: Blackwell Publishing Ltd, 2003.
- Barnett, Susan M, and Stephen J Ceci. “When and Where Do We Apply What We Learn? A Taxonomy for Far Transfer.” *Psychological Bulletin* 128, no. 4 (2002): 612–37.
- Barrow, Robin. “Skill Talk.” *Journal of Philosophy of Education* 21, no. 2 (December 1987): 187–95.
- Battaly, Heather. “Teaching Intellectual Virtues: Applying Virtue Epistemology in the Classroom.” *Teaching Philosophy* 29, no. 3 (2006): 191–222.
- . “Virtue Epistemology.” *Philosophy Compass* 3, no. 4 (July 2008): 639–63.
- Battersby, Mark, and Sharon Bailin. “Critical Inquiry: Considering the Context.” *Argumentation* 25, no. 2 (April 9, 2011): 243–53.
- Bond, Rod, and Peter B Smith. “Culture and Conformity: A Meta-Analysis of Studies Using Asch’s (1952b, 1956) Line Judgment Task.” *Psychological Bulletin* 119, no. 1 (1996): 111–37.
- Bowell, Tracy, and Gary Kemp. *Critical Thinking a Concise Guide*. 4th ed. Abingdon: Routledge, 2015.
- Bridges, David. “Transferable Skills: A Philosophical Perspective.” *Studies in Higher Education* 1, no. October 2012 (1993): 43–51.
- Brighouse, Harry. *On Education. Technology*. New York: Routledge, 2006.
- Cederblom, Jerry, and David Paulsen. *Critical Reasoning: Understanding and Criticizing Arguments and Theories*. 7th ed. Boston, MA: Wadsworth, 2012.
- Code, Lorraine. *Epistemic Responsibility*. Hanover, N.H.: University Press of New England, 1987.
- . “Toward a Responsibilist Epistemology.” *Philosophy and Phenomenological*

- Research* 45, no. 1 (1984): 29–50.
- Cohen, Daniel H. “Keeping an Open Mind and Having a Sense of Proportion as Virtues in Argumentation” 1, no. 2 (2009): 49–64.
- . “Virtue Epistemology and Argumentation Theory.” *OSSA Conference Archive*, 2007, 1–9.
- Cottrell, Stella. *Critical Thinking Skills. Developing Effective Analysis and Argument*. 2nd ed. New York: Palgrave Macmillan, 2007.
- Cox, Damian. “Judging Character.” *American Philosophical Quarterly* 50, no. 4 (2013): 387–98.
- Cox, Damian, Marguerite La Caze, and Michael P Levine. *Integrity and the Fragile Self. Australasian Journal of Philosophy*. Vol. 81. Aldershot, England: Ashgate, 2003.
- Cuypers, Stefaan E. “Critical Thinking, Autonomy and Practical Reason.” *Journal of Philosophy of Education* 38, no. 1 (February 2004): 75–90.
- Davies, W. Martin. “An ‘infusion’ Approach to Critical Thinking: Moore on the Critical Thinking Debate.” *Higher Education Research & Development* 25, no. 2 (May 2006): 179–93.
- Dearden, R F. “Autonomy in Education.” In *Education and Reason, Part 3 of Education and the Development of Reason*, edited by R F Dearden, P H Hirst, and R S Peters. London: Routledge & Kegan Paul, 1972.
- Driver, Julia. “Moral and Epistemic Virtue.” In *Knowledge, Belief, and Character*, edited by Guy Axtell. Oxford: Rowman & Littlefield, 2000.
- Dunning, David, Kerri Johnson, Joyce Ehrlinger, and Justin Kruger. “Why People Fail to Recognize Their Own Incompetence.” *Current Directions in Psychological Science* 12, no. 3 (June 2003): 83–87.
- Ennis, Robert H. “A Concept of Critical Thinking.” *Harvard Educational Review* 32, no. 1 (1962): 81–111.
- . “A Taxonomy of Critical Thinking Abilities and Dispositions.” In *Teaching Thinking Skills*, edited by J Baron and R Sternberg, 9–26. New York: W.H. Freeman, 1987.
- . “Critical Thinking Dispositions: Their Nature and Assessability.” *Informal Logic* 18, no. 1996 (1996): 165–82.
- . “Critical Thinking: A Streamlined Conception.” *Teaching Philosophy* 14, no. 1 (1991): 5–24.
- Epstein, Richard L, and Carolyn Kernberger. *Critical Thinking*. Belmont: Thomson Wadsworth, 2006.
- Evans, Jonathan St B T. “Dual-Process Theories of Deduction.” In *The Oxford Handbook of Thinking and Reasoning*, edited by Keith J. Holyoak and Robert G. Morrison. New York: Oxford University Press, 2012.

- Facione, Peter A. "Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction. Research Findings and Recommendations." *ERIC Doc No: ED. 315 423.*, 1990.
- . "The Disposition toward Critical Thinking: Its Character, Measurement, and Relationship to Critical Thinking Skill." *Informal Logic* 20, no. 1 (2000): 61–84.
- Facione, Peter A, and Carol Ann Gittens. *Think Critically*. Upper Saddle River, New Jersey: Pearson Education, 2013.
- Greco, John, and John Turri. "Virtue Epistemology." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Winter., 2013.
<http://plato.stanford.edu/archives/win2013/entries/epistemology-virtue/>.
- Hamby, Benjamin. "Libri Ad Nauseam: The Critical Thinking Textbook Glut." *Paideusis* 21, no. 1 (2013): 39–48.
- Hume, David. *An Enquiry Concerning Human Understanding*. Edited by Peter Millican. Oxford: Oxford University Press, 2007.
- Hursthouse, Rosalind. *On Virtue Ethics*. New York: Oxford University Press, 1999.
- Hyslop-Margison, EJ. "The Failure of Critical Thinking: Considering Virtue Epistemology as a Pedagogical Alternative," 2009, 319–26.
- Isen, Alice M, Kimberly A Daubman, and Gary P Nowicki. "Positive Affect Facilitates Creative Problem Solving." *Journal of Personality and Social Psychology* 52, no. 6 (June 1987): 1122–31. <http://www.ncbi.nlm.nih.gov/pubmed/3598858>.
- Johnson, Stephen. "Teaching Thinking Skills." In *Teaching Thinking Skills*, edited by Christopher Winch, 2nd ed., 1–50. New York, NY: Continuum International Publishing Group, 2000.
- Jones, Steve. *BBC Trust Review of Impartiality and Accuracy of the BBC's Coverage of Science*, 2011.
http://downloads.bbc.co.uk/bbctrust/assets/files/pdf/our_work/science_impartiality/science_impartiality.pdf.
- Kahneman, Daniel. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux, 2011.
- Kahneman, Daniel, and Amos Tversky. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47 (1979): 313–27.
- . "Subjective Probability: A Judgement of Representativeness." *Cognitive Psychology* 3 (1972): 430–54.
- Kant, Immanuel. "An Answer to the Question: What Is Enlightenment?," Trans. Gregor, Mary J." In *Practical Philosophy*, edited by Mary J Gregor. Cambridge: Cambridge University Press, 1996.
- Kitcher, Philip. "The Division of Cognitive Labor." *The Journal of Philosophy* 87, no. 1 (1990): 5–22.
- Kvanvig, Jonathan L. "Virtue Epistemology." In *The Routledge Companion to*

- Epistemology*, edited by Sven Bernecker and Duncan Pritchard, 199–207. New York: Routledge, 2011.
- Lakatos, I. “Criticism and the Methodology of Scientific Research Programmes.” *Proceedings of the Aristotelian Society* 69 (1968): 149–86.
- Lipman, Matthew. *Thinking in Education*. 2nd ed. New York: Cambridge University Press, 2003.
- Mackenzie, Jim. “On Teaching Critical Thinking.” *Educational Philosophy and Theory*, 1991, 56–78.
- McPeck, John E. *Critical Thinking and Education*. Oxford: Martin Robertson, 1981.
- . “Stalking Beasts, but Swatting Flies: The Teaching of Critical Thinking.” *Canadian Journal of Education* 9, no. 1 (1984): 28–44.
- . *Teaching Critical Thinking: Dialogue and Dialectic*. New York: Routledge, 1990.
- Montmarquet, James. *Epistemic Virtue and Doxastic Responsibility*. Lanham, Maryland: Rowman & Littlefield, 1993.
- Moore, Brooke Noel, and Richard Parker. *Critical Thinking*. 9th ed. New York: McGraw-Hill, 2009.
- Moore, Tim J. “The Critical Thinking Debate: How General Are General Thinking Skills?” *Higher Education Research & Development* 23, no. 1 (2004): 3–18.
- Munson, Ronald, and Andrew Black. *The Elements of Reasoning*. 6th ed. Boston: Wadsworth, 2012.
- Olin, Lauren, and John M. Doris. “Vicious Minds.” *Philosophical Studies* 6, no. 19 (June 19, 2013): 1–28.
- Passmore, J. “On Teaching to Be Critical.” In *Education and the Development of Reason*, edited by R F Dearden, P H Hirst, and R S Peters. London: Routledge & Kegan Paul, 1975.
- Paul, Richard. “Critical Thinking, Moral Integrity, and Citizenship.” In *Knowledge, Belief, and Character: Readings in Virtue Epistemology*, edited by Guy Axtell. Oxford: Rowman & Littlefield, 2000.
- . “Critical Thinking: What, Why, and How.” *New Directions for Community Colleges*, no. 77 (1992).
- . “Teaching Critical Thinking in the ‘Strong’ Sense: A Focus on Self-Deception, World Views, and a Dialectical Mode of Analysis.” *Informal Logic* 4, no. 2 (1984): 2–7.
- Paul, Richard, and Linda Elder. *Critical Thinking Skills for College Life: Tools for Taking Charge of Your Learning and Your Life*. 2nd ed. Upper Saddle River, New Jersey: Pearson Education, 2014.
- . *The Miniature Guide to Critical Thinking: Concepts and Tools. Thinking*, 2008.

- Richards, Norvin. "Is Humility a Virtue?" *American Philosophical Quarterly* 25, no. 3 (1988): 253–59.
- Rogers, Peter. "'Discovery', Learning, Critical Thinking, and the Nature of Knowledge." *British Journal of Educational Studies* 38, no. 1 (1990): 3–14.
- Rudinow, Joel, and Vincent E Barry. *Invitation to Critical Thinking*. 6th ed. Belmont: Thomson Wadsworth, 2008.
- Russell, Bertrand. "Why I Am Not a Christian." In *Why I Am Not a Christian: And Other Essays on Religion and Related Subjects*, edited by Paul Edwards. New York: Touchstone, 1967.
- Salmon, Merrilee H. *Introduction to Logic and Critical Thinking*. 6th ed. Boston: Wadsworth, 2013.
- Scherkoske, Greg. *Integrity and the Virtues of Reason*. Cambridge: Cambridge University Press, 2013.
- Schroeder, Mark. "Scope for Rational Autonomy." *Philosophical Issues* 23, no. 1 (2013): 297–310.
- Siegel, Harvey. *Educating Reason: Rationality, Critical Thinking and Education*. New York: Routledge, 1988.
- . "Is 'Education' a Thick Epistemic Concept?" *Philosophical Papers* 37, no. 3 (2008): 455–69.
- . "Neither Humean Nor (Fully) Kantian Be: Reply to Cuypers." *Journal of Philosophy of Education* 39, no. 3 (August 2005): 535–47.
- . "On Thinking Skills." In *Teaching Thinking Skills*, edited by Christopher Winch, 2nd ed., 51–84. New York, NY: Continuum International Publishing Group, 2000.
- . "Rationality and Epistemic Dependence." *Educational Philosophy and Theory* 1, no. 20 (1988): 1–6.
- . "The Generalizability of Critical Thinking." *Educational Philosophy and Theory* 23, no. 1 (1991): 18–30.
- . "Truth, Thinking, Testimony and Trust: Alvin Goldman on Epistemology and Education." *Philosophy and Phenomenological Research* LXXI, no. 2 (2005).
- . "What (good) Are Thinking Dispositions?" *Educational Theory* 49, no. 2 (1999): 207–21.
- Slote, Michael. "Agent-Based Virtue Ethics." In *Virtue Ethics*, edited by Roger Crisp and Michael Slote, 239–62. Oxford: Oxford University Press, 1997.
- Sosa, Ernest. "The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge." *Midwest Studies in Philosophy* 5 (1980): 3–25.
- Spinoza. "Ethics." In *Spinoza: Complete Works*, edited by Michael L Morgan, translated by Samuel Shirley. Indianapolis: Hackett Publishing Company, Inc., 2002.

- Stanovich, Keith E., and Maggie E. Toplak. "Defining Features versus Incidental Correlates of Type 1 and Type 2 Processing." *Mind & Society* 11, no. 1 (January 4, 2012): 3–13.
- Swanton, Christine. "A Virtue Ethical Account of Right Action." *Ethics* 112, no. 1 (2001): 32–52.
- . *Virtue Ethics: A Pluralistic View*. New York: Oxford University Press, 2003.
- Tittle, Peg. *Critical Thinking: An Appeal to Reason*. New York: Routledge, 2011.
- Toulmin, Stephen E, Richard Rieke, and Allan Janik. *An Introduction to Reasoning*. New York, New York: Macmillan Publishing Co., Inc., 1979.
- Tversky, Amos, and Daniel Kahneman. "Judgement under Undertainty: Heuristics and Biases." *Science* 185 (1974): 1124–31.
- van Hooft, Stan. "Integrity and the Inchoate Self." *Philosophy Today* 39, no. 3 (1995): 245–62.
- . *Understanding Virtue Ethics*. Chesham, U.K.: Acumen, 2006.
- Verlinden, Jay. *Critical Thinking and Everyday Argument*. Boston: Wadsworth, 2005.
- Weddle, Perry. "McPeck's Critical Thinking and Education." *Informal Logic* 6, no. 2 (1984): 23–25.
- Weisberg, Michael, and Ryan Muldoon. "Epistemic Landscapes and the Division of Cognitive Labor." *Philosophy of Science* 76, no. April (2009): 225–52.
- Whately, Richard. *Elements of Logic*. 9th ed. Boston and Cambridge: J. Munroe and Co., 1855.
- Winch, Christopher. "Developing Critical Rationality as a Pedagogical Aim." *Journal of Philosophy of Education* 38, no. 3 (2004): 467–84.
- Zagzebski, Linda. "Intellectual Autonomy." *Philosophical Issues* 23, no. 1 (October 25, 2013): 244–61.
- . *On Epistemology*. Belmont, CA: Wadsworth, 2009.
- . "Précis of Virtues of the Mind." *Philosophy and Phenomenological Research* 60, no. 1 (2000): 169–77.
- . *Virtues of the Mind*. Cambridge: Cambridge University Press, 1996.